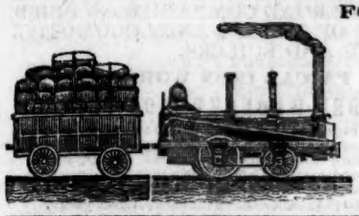
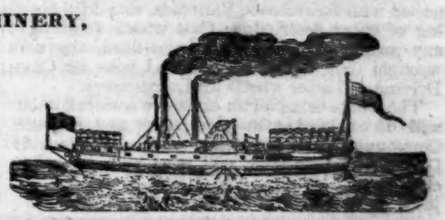
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.



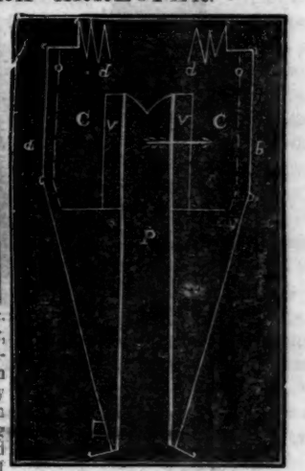


ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT THREE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. I., No. 19.] THURSDAY, MAY 8, 1845. [WHOLE No. 462, VOL. XVIII.

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
ja45 President of the Newcastle Manuf. Co.

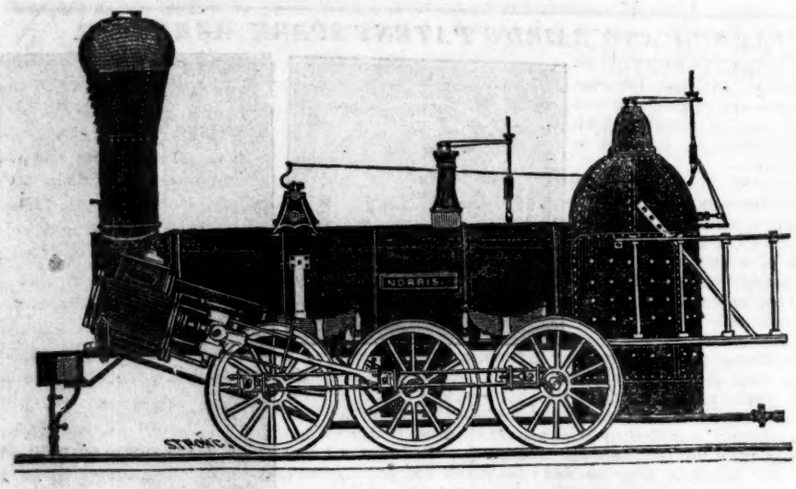
CUSHMAN'S COMPOUND IRON RAILS etc. The Subscriber having made importat improvements in the construction of rails, mode n guarding against accidents from insecure joints, etc. —respectfully offers to dispose of Company, State Rights, etc., under the privileges of *letters patent* to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of *improving* their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

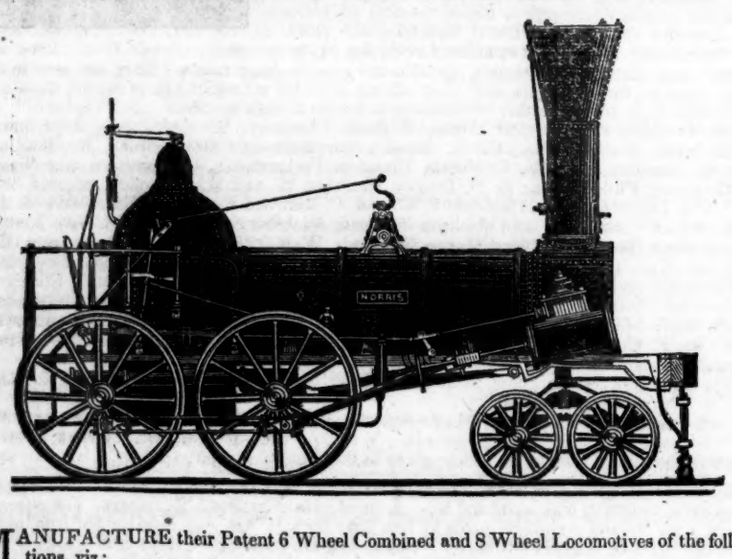
W. Mc. C. CUSHMAN, *Civil Engineer*,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applicaitons must be post paid.

NORRIS' LOCOMOTIVE WORKS

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter	of	Cylinder,	× 20	inches Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

TO IRON MANUFACTURERS. THE SUBscribers, as Agents of Mr. George Crane, of Wales, having obtained a patent in the United States for his process of smelting Iron Ore with Anthracite coal, and holding an assignment of the patent obtained by the late Rev. F. W. Geissenhainer, are prepared to grant licenses for the manufacture of Iron according to Mr. Crane's principle.

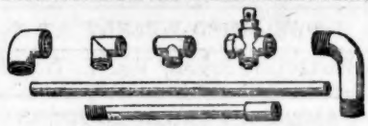
A. & G. RALSTON & CO.,
ja45 No. 4 Sout Fronth st., Philadelphia, Pa.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ⅛ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of *Bituminous Coal* and *Iron Ore*, of the first quality, at Ralston, Lyoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years; the coal will not cost more than $1 to $1 25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together, these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

W. R. CASEY, *Civil Engineer*,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

CHESAPEAKE AND OHIO CANAL.

There has recently been a general meeting of the stockholders of this company, for the purpose of accepting or rejecting the amendment to its charter, and the law recently passed by the Legislature of Maryland, "to provide for the completion of the canal to Cumberland, and for other purposes." Both were unanimously accepted—therefore we now hope to see the canal speedily completed to the coal regions, that it may be used to some purpose, and thus aid in removing the load which it has been largely, if not mainly, instrumental in fastening upon the shoulders of the people of Maryland. Open wide the avenues between the *treasures* of the mountains and tide-water, and we shall soon see vast amounts of capital invested, and ample supplies of bituminous coal, and iron of the best quality, produced by our own labor, and from our own materials.

We make the following extracts in relation to the character of the work from the communication of the President, James M. Coale, Esq., to the stockholders, by way of refreshing the memory of those of our readers who may have forgotten its dimensions and estimated capacity :—

"It may be proper, in this connection, to give a brief description of the Chesapeake and Ohio canal, its dimensions, present cost, capacity, and the sources of its expected trade, in order that the strength of the security upon which the bonds are to be based, may be justly appreciated.

THE CANAL.

The Chesapeake and Ohio Canal, with the terminus at present contemplated, extends from Georgetown, in the District of Columbia, to the town of Cumberland, in Alleghany county, Maryland, a distance of 184½ miles. About 5 miles of the canal is within the District; the entire residue of the line is within the State of Maryland. Of the entire line 134½ miles, extending from Georgetown to Dam No. 6, are finished and navigable, and the trade thereon is steadily increasing. Thirty-one and seven-tenths of the work of the remaining fifty miles have already been executed, at a cost of $2,892,000, and there only remains eighteen and three-tenths miles of the work to be done to complete the canal and open a thorough navigation from the tide-water of the Potomac to Cumberland. The amount required to finish these eighteen and three-tenth miles, according to a detailed estimate made by the chief engineer, in 1842, was $1,545,000. That estimate was made in reference to the cost of the work which had been done, at a time when provisions were high and labor scarce. Now, however, provisions are low and labor is abundant, and these advantages must necessarily enure to the benefit of the company.

DIMENSIONS AND COST.

The depth of the Chesapeake and Ohio canal is six feet throughout, but its transverse sections vary. From Georgetown to Harper's Ferry, a distance of sixty miles, it is 60 feet wide at the top, and forty-two feet at the bottom. From Harper's Ferry to Dam No. 5, (47 miles,) the top width is 50 ft. and bottom width 32 ft. From Dam No. 5 to Cumberland, (77½ miles,) the top width is 50 ft. and bottom width 32 ft. The basin of the canal at Cumberland is 609 feet above the level of tide-water at Georgetown. This ascent is overcome by one tide and seventy-five lift locks, averaging about eight feet lift. The locks, so far as the work has been finished, are constructed in the most durable manner, of solid masonry, and each has a chamber of 100 feet long, and 15 feet wide in the clear. They are constructed with a view to a double lockage, whenever the exigencies of the company may require it; but, as we shall presently show, the capacity of the canal, with single locks, as at present, is fully equal to the accommodation of a trade sufficient to gratify the most extravagant desires of its supporters. The sheer cost of the canal up to this time is as follows :—

For the acquisition of lands,	$402,913 94
For the engineer department,	358,951 04
For construction,	9,013,837 56
Total,	$9,775,702 54

CAPACITY.

When the canal shall be finished and filled to its capacity, boats carrying 100 tons of tonage may navigate its entire length with ease. In consequence of the mildness of the latitude in which it is located, it has heretofore seldom been closed by ice for more than six weeks in the year, which generally happens in January and February; and, in this respect, it consequently possesses great advantages over the northern canals, whose navigation is usually suspended for four or five months annually. It is scarcely necessary to go into an estimate of the annual amount of tonnage that might be transported on a work of this description; but, as the calculation is before us, we will here transcribe its results.

Several years ago the chief engineer of this company made two estimates, founded upon data furnished by the experience of 14 years on the Erie canal, in New York. The one was based on the greatest month's work, and the other on the number of boats which, in the opinion of several of the officers of that canal, could conveniently be passed each day. Assuming the capacity of boats on the Chesapeake and Ohio canal at only 80 tons, according to the first calculation, the amount of tonnage capable of being transported on it during a navigable year was shown to be, in both directions, with single locks, as at present, 3,264,000 tons, and with double locks, 5,440,000 tons; and, on the second basis, the amount presented was, with single locks, 6,000,000 of tons, and with double locks, 10,000,000 of tons per annum. With a large allowance, therefore, for the usual discrepancy between theoretical calculations and practical results, it is very manifest that many years must elapse before the full capacity of the Chesapeake and Ohio canal, with single locks, can be tested by actual experience.

SOURCES OF TRADE AND REVENUE.

The canal, running nearly parallel with the river through its entire length, necessarily passes through the centre of the fertile grain-growing valley of the Potomac, whose agricultural and manufacturing productions will, in a great measure, be borne upon it to market. Along its line may be created "a water-power surpassed in extent only by that which England and the United States enjoy in common, near the western extreme of the Erie canal, in the Falls of the Niagara." When it is finished to Cumberland, it will be put in direct communication with the trade of the west, and will afford the most eligible and cheapest route to the seaboard, from the vast and populous regions beyond the Allegheny mountains. With a portage, by wagons, of only 73 miles on the great national Macadamized road, between Cumberland and Brownsville, on the Monongahela, to which steamboats of the largest class now come, the facilities of water communication for freight of every description will be afforded to the States bordering on the Ohio river, and those of the far west who may navigate its waters in conveying their productions to the cities of the Atlantic, or receiving from thence their supplies. From the county of Alleghany also a considerable amount of tonnage will be supplied in iron, fire-bricks, cement, lumber, etc.; but by far the most important source of trade relied on, and to grasp which has been the primary and controlling motive in prosecuting the work to its present destination, is the boundless and inappreciable coal fields of that country. Within a range of from six to twelve miles from the basin of the canal at Cumberland the deposites of bituminous coal of a superior quality are numerous, and, morally speaking, inexhaustible. Those that have been already opened consist of horizontal strata, slightly elevated, and declining towards the valleys, so as to be situated in the best possible manner for self-drainage. According to Professor Silliman, the quantity of coal in that region that is thus situated "is so abundant that it will not be exhausted for centuries. It will be the province of a distant posterity to drain the lower beds by tunnelling, or by the unlimited and untiring energy of the steam engine." But the boundless extent of the Alleghany coal fields, as well as the superior quality of the Cumberland coal, are matters so well established now as to render a parade of authorities on the subject in this place superfluous. Such as may desire to pursue the inquiry will find a mass of testimony collected together in the appendix to our special report of the 16th of November, 1843, and new illustrations of its value will be seen by reference to the voluminous and very learned report of Professor Johnson, "on American coals applicable to steam na-

vigation and other purposes," made to the Navy Department, in June, 1844, and recently published under an order of the U. S. Senate. In this last mentioned document, which contains the results of a long series of scientific experiments, it will be found that "in the order of evaporative power under equal weights," "of evaporative power under equal bulks," which is deemed of the highest importance for the purposes of steam navigation, and of the "evoporative power of combustible matter," the Cumberland coal takes rank as number one in a list of thirty-seven different varieties of coal, obtained from various regions in the United States and Great Britain, including the Newcastle, Sidney, Pictou, Liverpool, and Scotch coals.

"As a fuel for domestic purposes (according to the report alluded to) it possesses on the one hand, a flame abundantly sufficient to give cheerfulness to the aspect of a parlor fire, and on the other, a durability approximating that of some of the lighter anthracites; and, as a furnace coal for the manufacture of iron, it will be found among the best of the bituminous class, since, either with or without previous coking, it may be very advantageously employed in the blast furnace.

"Three different sizes of chain were in progress of manufacture at the different periods at which these experiments were made. They can, however, be all reduced to the same size, by a comparison with a common standard sample of coal, which was used on two sizes of chain. Thus Atkinson and Templeman's (Cumberland coal) made 18 links of a chain one and three-eighth inches in diameter, and eight links of another chain one and fifteen-sixteenth inches in diameter, by the use, in each case, of sixty lbs. of coal. Midlothian (new shaft) coal of equal quantity was found adequate to the making of fourteen links of one and three-eighth inch chain; and three Virginia coals (viz. Crouch & Snead's, Creek Company's, and Chesterfield Mining Company's,) having a mean evaporating power almost identical with the Midlothian 'new shaft,' put in nine links of one and three-eighth inch chain.'

The following table will exhibit "the relative heating powers of the Cumberland and foreign coals, as tested in making chain-cable, compared with their evaporative powers :"

Designation of Coals.	Pounds of steam, at 212°, produced by 1 lb. of coal.	Size of links, diameter in inches.	No. of links made by 60 lbs. of coal.	Deduced No. of links of 1⅜ inches in diameter by 60 lbs.
Cumberland, Atkinson & Templeman,	10.699	1⅜	18	18
Do. Maryland & New York Mining Company,	10.259	1⅜	20	20
Foreign, Scotch,	6.946	1⅜	10	10
Do. Pictou,	8.412	1⅜	11	11
Do. Liverpool,	7.842	1⅜	13	13
Do. Newcastle,	8.656	1⅜	15	15

Possessing these advantages, and others that might be enumerated, it is scarcely possible, without incurring a charge of extravagance, to estimate the amount of Cumberland coal that would be annually consumed, if a full and regular supply were furnished to, and at all times kept on hand in the markets of the country. We have before us, however, abundant evidence to show that the most energetic efforts will be made to keep pace with the demand, to whatever magnitude it may increase, as soon as the proper facilities of conveyance are afforded. During the past year, new life and enterprize appear to have manifested themselves in the Cumberland region. Within the range of which we have before spoken, numerous mines have already been opened by incorporated companies of large capital, private partnership, and individuals, all of whom are now preparing for vigorous operations. The railroad which is to connect the mines with the basin of the canal at Cumberland has already been completed; another is under contract, and two more in contemplation, which will be finished next year. These roads, the longest of which will not exceed ten miles, will bring the products of the various mines to the basin of the canal at Cumberland, and from thence they will be transported on its smooth surface to market. According to the present tariff, the toll on the transportation of coal from Cumberland to Georgetown is one dollar per ton. It will be perceived that in the foregoing enumeration we have mainly confined ourselves to a consideration of the descending trade of the canal. The ascending will of course consist of those ordiaary supplies which pass from the seaboard to the interior.

We have thus presented a brief outline of the canal, and indicated some of the most prominent sources of its expected trade. Having done this, we think we have given good reasons for the assertion made in an early part of this communication, that the bonds that are to be issued under the recent law, being preferred and absolute liens upon the entire revenues of the Company, will be one of the best and safest investments of the day.

LEHIGH CANAL AND LEHIGH AND SUSQUEHANNA RAILROAD TRANSPORTATION.

We have been informed that much difficulty has arisen for want of a connection between the transportation lines upon the Lehigh canal and those upon the Lehigh and Susquehanna railroad. And that goods destined for Mauch Chunk from Wilkesbarre must be accompanied by an agent to insure their delivery at this place, otherwise they are left at White Haven without being forwarded. This line is becoming of much importance, much of the produce used here and in the vicinity, being brought from the valley of the Susquehanna. If we have been correctly informed the present arrangement cannot be too severely condemned; if our informant is mistaken we hope those interested will correct us. If the transportation companies think an advertisement in the Gazette is unnecessary, or that they are unable to pay for it, we will publish their arrangements, terms, etc., gratis, for the information of our readers, who every day make inquiries of us in relation to their lines.

We find the above in the Carbon County Gazette. It shows how little *some* people understand their true interest, and the *value of advertising*. We admire the liberality of the editor, who offers to advertise "gratis," but are inclined to believe that he is driven to this course, in self-defence, to avoid being himself made what is sometimes called a "*standing* advertisement." It reminds us of the modest and *reasonable* requests, not unfrequently made of us, to furnish a written description, giving the *length, grades, curves, cost*, etc., etc., of *all* the railroads in the United States—or that we will furnish the inquirer with a *single* number of the Journal containing all this information for *six cents!* and it *has* occurred that we have received such a request from an entire stranger, by mail, when the letter was charged with *postage!!* Perhaps the editor of the Gazette will also pay postage on the advertisements rather than not oblige them!

IMPROVED TRUCK FRAME FOR RAILROAD CARS.

We find in the Journal of the Franklin Institute, for April, the following specification in relation to the Iron Truck Frame of Messrs. Davenport & Bridges. It reads thus, viz :—

The connections between the pedestals of this truck frame, instead of being made by means of solid pieces of timber extending from one pedestal to another on each side, are, by means of two tie plates of iron bolted together through the pedestals, one being above and the other below; above the upper tie plate, and extending from one pedestal to the other, there is an arch plate connected with the pedestals by the same bolts that secure the tie plates. The two truss frames are connected together by means of diagonal iron plates bolted to the pedestals, and so twisted and connected in the middle as to form the opening for the king-bolt that secures the truck and car together.

Claim—"I do not claim making the truck frame of a railroad carriage with side truss frames united with diagonal braces, as this has been known before, nor do I claim making these frames of iron, or other metal; but what I do claim as my invention, is making the trusses of the truck frame that are united and braced together by means of twisted diagonal plates, of arch plates, and tie bars, so arranged and bolted together as to embrace and secure the pedestals as described, by which arrangement I obtain the necessary strength with greatly reduced weight, and employ the pedestals for the double purpose of holding the boxes of the wheel axles, and connecting the tie bars of the trusses."

MAGNETIC TELEGRAPH ACROSS THE ATLANTIC.

A writer in the New York Tribune suggests a plan for bringing Old England within speaking distance of us, by means of Morse's telegraph. By the way, as often as we see those words, Morse's telegraph, we ask ourselves whether the magnetic telegraph, which is justly exciting so much admiration, really is Morse's telegraph, or whether it is the invention of some other individual; our impression is, that a scientific gentleman of this city, not Prof. Morse, is entitled to the credit of first developing that wonderful power of magnetism; but we cannot speak from actual knowledge, and should be glad of information on the subject. The plan suggested for establishing telegraphic communication across the Atlantic is, to run a copper wire, well covered, and as large as a pipe stem, from Nova Scotia to the coast of Ireland. This, as is thought, may be accomplished by winding the wire upon reels, and arranging it on board a steamer so as to be reeled off as fast as the boat goes, and dropped the whole width of the Atlantic. The writer says:

"Its gravity would sink it to the depth where water was so dense as to be of equal gravity, and of course beyond the reach of any kind of collision. Beginning and ending upon a bold shore, beyond the reach of anchors, it would be out of harm's way, and exposed to but two kinds of accidents, viz: from separation by its own weight, and the loss of the coating with which the metal must be protected. The steamer Gt. Britain would carry more wire of this size than would extend to Europe, and its cost I think would be less than a million of dollars."

Surprising as it may seem, when its results are considered, this is not a chimerical idea. It may be realized at no distant day. And then we shall receive news from Europe in a breath of time, and as fresh as the lightning's flash. We may stop our press to announce an event which occurred but a few seconds before on the other side of the water. Nor will this be much more marvellous than the changes which have been wrought by the aid of science, within the past century, as well in the transmission of intelligence from the other continent, as in the facilities for spreading it through the cities and villages of our own country. Now we are impatient if the steamer is delayed beyond twelve or thirteen days on the voyage from Liverpool; and in four and twenty hours after her arrival the intelligence she brings has become old news in every village within a hundred miles of Boston.

A little more than a hundred years ago, the Boston News Letter, the first newspaper published in Boston, was printed on a half sheet of pot paper, once a week. In August, 1719, the publisher of the News Letter gave the following notice:

"The undertaker of this News Letter in January last gave information that after fourteen years' experience, it was impossible with half a sheet a week to carry on all the public occurrences of Europe, to made up which deficiency, and to render the news newer and more acceptable, he has since printed every other week a whole sheet;—whereby that which seemed old in the former half sheet, becomes new now by the sheet, which is easy to be seen by any one who will be at the pains to trace back former years, and even this time twelve months—we were then thirteen months behind with the foreign news, and now we are less than five months; so that by the sheet we have retrieved about eight months since January last, and any one that has the News Letter to January next (life permitted) will be accommodated with all the news from Europe needful to be known in these parts."

Afterwards the publisher gave notice that if he did not print a sheet every other week during the winter, he would make it up in the spring, "when ships do arrive from Great Britain."

"Thirteen months behind with the foreign news!" What would the news mongers of 1845 say to such a catastrophe?

We copy the above article from the Traveller. We have more than once been asked how long it will be before there will be a telegraphic communication with Europe—a difficult question, truly, to answer—not more difficult enterprize, however, than many which have been accomplished within the past half century.

For the Railroad Journal.

TELEGRAPHS.

The recent improvements in the construction of Telescopes will render more perfect the system of visual telegraphs, and may lessen perhaps materially the superiority of the magnetic telegraph. The improvements to which we particularly allude are those made by the Earl of Rosse, as described in the North British Review, and other scientific journals. The article in the Review contains a very full account of the labors of the Earl, in his efforts to improve the reflecting telescope, and by which it appears that an immense magnifying power may be obtained at a comparatively small expense.

His improvements consist principally in the composition of the speculum metal, the mode of casting, of giving the exact parabolic forms, and of polishing.

A speculum of three feet diameter is found to possess a greater magnifying power than the four feet speculum of Herschel. One of six feet diameter has just been completed, and others are in progress, of 8 and 10 feet diameter! To show to what degree the process of constructing has been simplified and cheapened, it is only necessary to state that in casting sixteen plates for three feet speculums "not one was defective." The grinding and polishing is all done by machinery moved by steam power, (a small engine of two horse power,) with a *precision unattainable by hand*. The speculum of six feet diameter, just completed, was "*polished in six hours*," and with "the same facility as a smaller speculum;" and, what is altogether new, the polishing was effected by "placing the speculum in a *cistern of water*, and using for the polishing material simply "the peroxide of iron, at about the consistence of thin cream."

The great cost of reflecting telescopes of a high magnifying form has heretofore consisted in the great expense and difficulty of forming the speculum, and as this appears now to be overcome, it is reasonable to infer that a very great improvement may result in the system of visual telescopes. The magnifying power of Herschel's great telescope has been estimated at 6,000. The three feet speculums of Rosse have an equal or greater power. With telescopes like these, the telegraphic stations may be so far removed from each other as to lessen very materially the expense of conveying intelligence; and if combined with the Drummond light, which is not costly to produce, the telegraphic signs may be read distinctly by night as well as by day, and at all times when the atmosphere is not obscured by fogs, rain or snow.

While the Earl of Rosse has been thus successful in improving the reflecting telescope, it appears by recent accounts that another gentleman, M. Jaunitz, in France, has been nearly equally successful in improving the achromatic, or refracting telescope—having been able to form lenses of much larger dimensions than any heretofore constructed.

From the preceding, it will be perceived that the system of visual telegraphs will, in all probability, be very greatly improved, and that shortly, and that any comparison instituted between it and the magnetic telegraph, in the present state of the former, would not show the actual relative merits of the two systems.

In concluding our remarks upon this subject, we will state, that a method for the quick transmission of intelligence has been proposed, differing entirely from the two modes above referred to. This latter mode consists in placing the intelligence or article to be conveyed in a hollow cylinder, which is impelled with great velocity through a tube of a suitable size, by atmospheric pressure, upon the same principle that motion is effected upon the atmospheric railway. This last mode has merits which seem not to be as yet fully appreciated, and should be fairly tested before any measures are taken to establish a general system of telegraphic communication. J——.

ENGLISH RAILROAD SHARE-LIST.

NAME OF RAILWAY.	Miles opened.	Total sums, in pounds, authorized to be raised by shares.	Total sums, in pounds authorized to be raised by loan or mortgage.	Total sums, in pounds, expended at dates of latest balance sheets.	Cost of working in pounds for six months as stated in latest balance sheets.	Total earnings, in pounds, for six months as stated in latest balance sheets.	Dividend at last meeting. £	Per share. s. d	Per cent. per annum. £	s. d.	Paid on share.	Value of share.
Arboath and Forfar	15	102,000	35,000	138,870	.....	.....	0	12 6	2	10 0	25	27
Birmingham and Gloucester	55	1,187,500	407,336	1,500,806	39,261	53,203	1	5 0	2	10 0	100	100
Brandling Junction	23	161,700	365,470	481,452	.....	.....	.....		4	10 0	50	54
Bristol and Gloucester	37½	400,000	211,000	.....	.....	.....	.....		nihil.		30	36
Chester and Birkenhead	14½	750,000	143,170	518,989	5,856	13,148	0	8 6	1	14 0	50	32
Dublin and Drogheda	31	450,000	150,000	500,869	.....	.....	.....		nihil.		55	72
Dublin and Kingston	6	200,000	152,200	359,000	.....	.....	6	0 0	6	0 0	100	166
Dundee and Arbroath	16½	100,000	49,445	153,416	2,989	6,993	1	5 0	5	0 0	25	29
Durham and Sunderland	18¾	169,350	124,055	270,392	9,889	17,702	.....		nihil.		34	29
East County and North and East	86¼	4,443,200	1,341,155	3,931,905	47,385	118,726	1	6 6	.....		45	57
Edinburg and Glasgow	46	1,125,000	375,000	1,649,523	29,429	55,866	1	2 6	4	10 0	50	57
Glasgow, Paisley and Ayr	51	937,500	.....	1,066,951	12,446	36,736	1	2 6	4	10 0	50	60
Glasgow, Paisley and Greenock	22½	650,000	216,666	787,884	11,572	23,177	0	5 0	2	0 0	25	12
Grand Junction	104	2,478,712	.....	2,453,169	84,309	195,080	5	0 0	10	0 0	100	210
Great North of England	45	969,000	581,017	1,262,518	12,201	36,189	1	12 6	3	5 0	100	119
Great Western	221½	4,650,000	3,679,343	7,272,539	132,235	369,904	3	10 0	7	0 0	75	138
Hartlepool	15½	438,000	155,540	719,205	.....	.....	.....		8	0 0	100	...
Leicester and Swannington	16½	140,000	.....	140,000	2,207	6,317	1	5 0	5	0 0	50	...
Liverpool and Manchester	32	1,209,000	497,750	1,739,835	57,239	117,559	5	0 0	10	0 0	100	203
Llanelly	27	200,000	44,000	221,624	.....	.....	1	0 0	2	0 0	87	...
London and Birmingham	12½	6,874,976	1,928,845	6,393,468	92,823	405,768	.....		10	0 0	100	218
London and Blackwall	3¾	804,000	266,000	1,315,640	15,978	23,870	.....		.....		16	6
London and Brighton	56	1,793,800	998,350	2,630,451	29,372	84,880	0	12 0	2	8 0	50	47
London and Croyden	8½	550,000	229,000	761,885	7,583	10,545	0	5 0	2	10 0	14	17
London and Greenwich	3¾	759,383	233,300	1,040,930	15,193	28,933	.....		nihil.		13	10
London and South Western	92¼	2,222,100	630,100	2,596,291	68,457	150,469	1	12 6	6	10 0	41	73
Manchester and Birmingham	31	2,100,000	690,586	1,923,699	15,397	58,162	1	0 6	5	0 0	40	48
Manchester and Bolton	10	778,100	197,730	773,743	8,585	21,140	2	2 0	4	10 0	93	110
Manchester and Leeds and Hull	81	2,937,500	1,943,932	3,921,593	46,653	156,761	.....		7l. & 10l.		60	88
Midland railway	178½	5,158,900	1,719,630	6,279,056	76,983	281,898	.....		.....		100	96
Newcastle and Carlisle	61	878,240	188,563	1,135,069	26,499	73,947	4	0 0	4	0 0	100	105
Newcastle and Darlington	23	500,000	.....	405,728	.....	.....	.....		nihil.		21	49
Newcastle and North Shields	7	150,000	153,876	309,629	8,943	18,466	.....		2	0 0	50	37
North Union	39	739,201	308,306	1,015,447	9,071	37,794	2	10 0	6	16 8	100	104
Paris and Orleans	82	1,600,000	400,000	1,978,415	.....	.....	0	16 0	8	0 0	20	39
Paris and Rouen	84	1,440,000	.....	.....	31,247	91,171	.....		8	0 0	20	38
Preston and Wyre	19	830,000	179,852	355,161	4,191	7,066	.....		nihil.		50	18
Sheffield and Manchester	19	1,150,000	311.759	951,455	11,895	14,876	.....		nihil.		82	93
South Eastern	88	2,996,000	1,530,277	3,464,172	40,993	81,482	0	10 6	2	2 0	50	39
Taff Vale	30	465,000	154,785	590,006	8,509	18,414	1	0 0	6	5 0	100	55
Ulster	25	519,150	20,000	348,626	5,401	13,856	0	15 0	5	1 8	29	37
Yarmouth and Norwich	20½	187,500	62,500	230,250	.....	.....	.....		nihil.		16	25
York and N. Mid. and Leeds and Selby	28	1,062,500	167,500	676,644	27,132	55,752	2	10 0	10	0 0	50	100

NEW AND PROPOSED RAILWAYS.	Share Capital
Aberdeen	1,600,000
Barnsley Junction	200,000
Belfast and Ballymena	385,000
Blackburn and Accrington	400,000
Birk. and Ches. Junction	1,000,000
Bolt., Wigan and Liverpool	800,000
Caledonian	1,800,000
Cambridge and Lincoln	1,250,000
Chatham and Portsmouth	5,000,000
Chester and Wrexham	120,000
Churnet valley	1,800,000
Direct Northern to York	4,000,000
Dublin and Belfast	950,000
Dundee and Perth	250,000
Edinburg and Northern	800,000
Ely and Bedford	270,000
Glosgow, Dum. & Carlisle	1,300,000
Gt. South and West Ext	1,200,000
Gt. Grimsby and Sheffield	600,000
Harwich and E. coun. Jun.	160,000
Huddersfield & M. rl. & cl.	600,000
Kendal and Windermere	125,000
Leeds and Dewsbury	400,000
Leeds and Thirsk	800,000
Liv. Ormskirk and Preston	600,000
London and Portsmouth	1,750,000
London and York	5,000,000
Londonderry & Enniskillen	500,000
Lynn and Ely	200,000
Manchester, Bury and Ross	300,000
Manchester and Buxton	250,000
Mullingar and Athlone	.....
Newcastle and Berwick	700,000
Richmond & W. End Junc.	.....
Scottish Central	700,000
Sheffield and Lincolnshire	650,000
Shrewsbury and Gd. Junc.	400,000
Shrew. Wolv. Dudly & B.	900,000
Trent Valley	900,000
West London Extension	64,000
West Yorkshire	1,000,000
Whitehaven and Maryport	100,000
FRENCH RAILWAYS.	
Boulogne and Amiens	1,500,000
Central of France	1,280,000
Lyons and Avignon	2,400,000
Orleans, Tours & Bordeaux	2,000,000
Paris and Lyons	2,500,000
Paris and Orleans	1,600,000
Paris and Rouen	1,400,000

Steam and Miscellaneous.

NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.
Anglo Mexican Mint	10,000	10	10	.....	15⅛	15⅛
Anti Dry Rot	10,000	.....	18½	.....	2	.....
Australian Trust Company	5,700	100	35	.....	34½	.....
General hteam Navigation	20,000	15	14	10	27½	27
Gt Western Steam Pa	.....	.....	100	.....	25	.....
Metropolitan Wood Pav	15,000	10	6	5	6¼	.....
Patent Elastic Pav	10,000	1	1	5	1¼	.....
Peninsular and Oriental	11,493	50	50	7	64¼	65
Ditto	3,200	50	40	7	.....	.....
Polytechnic Institution	.....	.....	.....	6	.....	.....
Reversionary Int. Soc	5,3 [illegible]	100	100	4½	104	104
R. Mail Steam Packet	15,000	100	60	.....	36½	37
South Western Steam	4,000	25	5	.....	.....	.....
Ship Owners' Towing	3,000	10	7½	10	15	.....
Thames Tunnel	4,000	50	50	.....	.....	.....
University College	1,500	100	100	.....	.....	.....

Canals.

Ashby de la Zouch	1,432	113	av.	4	70	70
Barnsley	720	100	100	14	180	180
Birmingham, 1-16 share	3,000	118¾	79	10	150	160
Do. and LiverpoolJunction	4,000	160	100	.....	13½	13⅝
Coventry	500	100	100	20	365	365
Cromford	460	do.	do.	24	250	250
Derby	600	do.	do.	9	105	105
Erewash	231	do.	do.	32	440	440
Forth and Clyde	1,297	400¼	40½	4	440	440
Grand Junction	11,600	100	100	7	162	161½
Grand Surrey	1,500	do.	do.	.....	20	.....
Gloucester and Rerkley	5,000	do.	do.	.....	8	8
Grantham	749	150	150	8	185	185
Lancaster	11,699	47¼	47¼	3	40	40
Leeds and Liverpool	2,897	100	100	34	640	640
Leicester	545	140	140	9	139	139

NAME OF COMPANY.	Num. of shares.	Am't. of share	Amount paid.	Div. p.c. per ann.	Last price.	Present price.
Loughborough	70	142¼	142½	70	1140	
Monmouthseire	2,409	100	100	10	160	160
Melton Mowbray	250	100	100	10	117	117
Mersey and Irwell	500	100	100	10		
Macclesfield	3,000	100	100	2½	15	15
Neath	247	100	100	17	365	365
Oxford	1,786	100	100	30	505	
Regents or Loncon	21,418	33¼	33¼	2⅛	25	25
Shropshire	500	125	125	6	120	120
Somerset coal	800	150	150	7½	123	123
Stafford and Worcester	700	140	140	25	480	480
Shrewsbury	500	125	125	12	230	230
Stourbridge	300	145	145	14	360	360
Stroudwater	200	150	150	19		
Swansea	533	100	100	15	240	240
Severn & Why & Rail Av.	3,762	26½	26½	5⅛	30	30
Trent and Mersey	2,600	50	50	65	495	
Thames and Medway	8,149	19¼	19½	.....	10	10
Warwick and Birmingham	1,000	100	100	10½	167	
Warwick and Napton	980	100	100	8½	122	

Water Works.

Birmingham	4,800	25	25	3⅛	28	28
East London	4,433	100	100	8	223	225
Grand Junction	5,500	av.	41 2-3	7¼	88	90
New River L. B. Ann	1,500			2½		
Manchester and Salford	6,486	av.	30	8⅛	57	57
Vauxhall, lt. S. London	1,000		100	5	55	55
West Middlesex	8,294	av.	63⅛	6⅛	126	127

Docks.

Commercial Dock	1,065	100	100	3	80	
East and West India		sto.		5¼	137	
London	3,238,310	sto.		4½	114¾	115
St. Katharine	1,352,752	sto.		5	116	171
Southampton	7,000	50	50			

AMERICAN STATE WORKS AND CANALS, ETC.

		STATE WORKS.	Length in miles.	Cost.	1843. Income.	1843. Expend.	1844. Income.	1844. Expend.
N. Y.	1	Black river canal	35	1,524,967	.....	.....	.....	.....
"	2	Cayuga and Seneca	21	237,000	16,557	10,953	24,618	14,443
"	3	Champlain canal	64	1,251,604	102,308	.....	116,739	.....
"	4	Chemung	23	684,600	8,140	14,486	14,385	12,740
"	5	Chenango	97	2,420,000	16,195	15,967	22,179	15,960
"	6	Crooked lake	8	156,777	461	3,674	1,498	3,951
"	7	Erie—enlargement of	363	12,648,852	1,880,316	.....	.....	.....
"	8	Genessee valley	120	3,739,000	.....	.....	.....	.....
"	9	52 miles opened, cost $1,500,000	.....	.....	12,292	13,819	19,641	15,557
"	10	Oneida lake	6	50,000	225	2,239	621	1,636
"	11	Oswego	38	565,437	29,147	22,742	56,165	28,599
Pa.	12	Beaver division canal	25	.....	.....	.....	7,381	5,386
"	13	Delaware canal	60	.....	.....	.....	109,278	22,870
"	14	French creek	45	.....	.....	.....	.....	.....
"	15	Seneca river towing path	.....	69,276	.....	.....	381	.....
"	16	Columbia railroad	82	.....	.....	.....	443,336	205,067
"	17	Eastern division	36	.....	.....	.....	179,781	138,915
"	18	Juniata canal	93	.....	.....	.....	351,102	248,943
"	19	Portage railroad	130	.....	.....	.....	.....	.....
"	20	Western division canal	105	.....	.....	.....	.....	.....
"	21	North branch Susquehannah canal	73	.....	.....	.....	.....	.....
"	22	West " " "	72	.....	.....	.....	101,949	57,633
Ohio	23	Hocking canal	56	975,130	4,757	.....	5,286	4,139
"	24	Miami canal	85	1,660,742	68,640	38,826	77,844	22,341
"	25	Miami extension	105	2,856,636	8,291	.....	12,723	14,741
"	26	Miami northern division	35	322,000	.....	.....	unfin'd.	.....
"	27	Muskingum	91	1,627,318	23,167	.....	29,385	15,027
"	28	Ohio	334	4,600,000	322,754	123,398	343,711	113,210
"	29	Wabash	91	3,028,340	35,922	6,400	48,589	12,817
"	30	Walhonding	25	607,269	838	39,005	1,977	1,238
"	31	Western road	31	255,015	7,254	1,782	8,747	2,929
Ind.	32	Sundry works	.....	11,000,000	.....	.....	.....	.....
"	33	Maume canal	.....	.....	.....	.....	.....	.....
Ill.	34	Sundry works	.....	10,000,000	.....	.....	.....	.....
Mich	35	Central railroad	110	1,842,308	149,987	75,960	211,170	89,420
"	36	Southern railroad	68	936,295	24,064	7,907	60,341	70,000

The State Canals are all 4 feet deep, and the locks are 13 to 17 feet wide, and 80 to 90 feet in length.

The six millions paid to the canal fund from auction and salt duties are not included in the estimate of cost. The Genesee valley and the Black river canals require large sums for their completion, the interest of which *additional* sum is much greater than the estimated gross income of these canals when finished. The sums required to complete these two canals are $2,000,000 and $600,000, making their total cost when finished $5,553,000 and $2,409,000; an expenditure incurred on estimated incomes (admitted to be liberal,) of $39,000 and $14,000 respectively.

The total receipts from the works of Pennsylvania for 1843 were $1,019,401; for 1844 $1,164,326, and the cost about 30 millions.

The receipts for 1844 were as follows:

Canal tolls,	578,404
Railroad tolls,	252,855
Motive power,	319,590
Trucks,	13,477

of which $585,922 is from 118 miles of railroad, and $578,404 from 550 miles of canal.

The canals of Ohio are supported by a property tax of 5½ mills on the dollar. There are 853 miles of canal in the State, which yielded in 1843 $471,623, and in 1844 $515,393, the cost, 1st Jan. '43 being $15,577,233. The increase of '44 over '43 is only $43,770, though the year '44 has exhibited a greater increase throughout the country than ever before known.

These 21 millions on sundry works yield no income whatever.

The central railroad yields above 6 per cent., and is the only State work—the Erie canal excepted—which is able to stand alone.

	CANALS.	Length in miles.	Cost.	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Value of stock.
	Blackstone	.....	.....	.....	.....	....	.....	.....	....	.....
	Bald Eagle Navigation	25	400,000	.....	.....	....	.....	.....	....	.....
	Beaver and Sandy, (part)	.....	1,000,000	.....	.....	....	.....	.....	....	.....
	Charleston, (S. C.)	.....	.....	.....	.....	....	.....	.....	....	.....
	Chesapeake and Ohio	184	12,370,470	47,637	.....	....	.....	.....	....	.....
	Conestota	12	300,000	.....	.....	....	.....	.....	....	.....
	Delaware and Chesapeake	13	.....	.....	.....	....	.....	.....	....	26
	Schuylkill	108	3,500,000	279,795	102,221	....	190,693	120,624	....	31
	Farmington	.....	.....	.....	.....	....	.....	.....	....	.....
	James river and Kenhawa	.....	.....	.....	.....	....	.....	.....	....	.....
	Middlesex	.....	.....	.....	.....	....	.....	.....	....	.....
	Port Deposit	10	200,000	.....	.....	....	.....	.....	....	.....
	Delaware and Raritan	43	2,900,000	99,623	53,327	....	131,491	84,455	....	.....
	Southwark	.....	300,000	.....	.....	....	.....	.....	....	.....
	Tide Water	45	2,900,000	.....	.....	....	.....	.....	....	.....
	Union	80	2,000,000	.....	.....	....	.....	.....	....	.....
	Morris	101	1,000,000	.....	.....	....	.....	.....	....	28
	Dismal Swamp	.....	.....	.....	.....	....	.....	.....	....	.....

We may, perhaps, at some future time be enabled to give the particulars of all these canals.

The Chesapeake and Ohio canal is not yet completed to the coal mines, hence its trifling income.

The enlargement of the Schuylkill canal has been commenced.

The Morris canal was lately sold for one million, about one-fourth of its cost. It is said in the papers that it is to be enlarged. We have seen no report, nor heard of the appointment of any engineer.

CANADIAN CANALS.	Length in miles.	No. of locks.	Lockage in feet.	Size of locks. Length of chamber.	Size of locks. Width.	Size of locks. Depth on mitre sill.	Width of canal. Bottom.	Width of canal. Surface.	Estimate.	Expended to Sept. 1843.	Income. 1843.	Income. 1844.
The Welland canal	.....	.....	.....	feet.	feet.	feet.	feet.	feet.	3,948,572	2,485,572	64,658	
Main trunk from Port Colborne to Port Dalhousie	28	31	328	150	26 1-2	8 1-2	45	81	.....	.....		
Junction branch to Dunville (not added)	21	1	6	150	26 1-2	8 1-2	35	71	.....	.....		
Broad creek branch to Port Maitland (below.)	1 1-2	1	6	200	45	9	45	85	.....	.....		
The St. Lawrence canal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Galops and Port Cardinal	2	2	7	200	45	9	50	90	.....	.....		
Rapid Plat	4	2	11 1-2	200	45	9	50	90	672,498	973		
Farren's point	3-4	1	3 1-2	200	45	9	50	90	.....	.....		
Cornwall, passing the Long Sault rapids	11 1-2	7	48	200	55	9	100	150	865,372	1,665,663		
Beauharnois, do. Coteau, Cedars and Cascades road	11 1-4	9	82 1-2	200	45	9	80	120	1,190,087	275,426		
Lachine, do. Lachine rapids	8 1-2	5	44 1-2	200	45	9	80	120	old canal.	400,000	29,288	
Elargement of do.	.....	.....	.....	.....	.....	.....	.....	.....	1,001,333	64,439		
Total from lake Erie to the sea	12	57	525									
Chambly	66	9	74	120	24	6	36	60	200,000	440,000	1,409	

COAL COMPANIES.	Length in miles. R. rd.	Length in miles. Canals.	Cost.	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Value of stock.	REMARKS.
Delaware and Hudson	16	108	2,800,000	930,203	196,702	10	.....	.....	....	130	
Lehigh	20	72	6,000,000	.....	.....	....	.....	.....	....	31	

AMERICAN RAILROADS.

		RAILROADS.	Length in miles.	Cost.	Loans and debts.	Number of shares.	Paid on share	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	SALES. Previous prices	Week ending April 2nd. Shares.	Price
Me.	1	Portland, Saco and Portsmouth	50	1,200,000	.....	.....	....	89,997	47,166	7	124,497	74,841	6	113¼	..	102
N. H.	2	Concord	35	750,000	.....	.....	....	.....	.....	...	.....	.....	12	70½	..	139½
Mass.	3	Boston and Maine	56	1,485,461	.....	.....	....	178,745	68,499	6	233,101	86,401	6½	110¾	..	112¼
"	4	Boston and Maine extension	17 1-4	455,703	unfin.	.....	....	.....	.....	...	.....	.....	...	.....	.....	....
"	5	Boston and Lowell	26	1,863,746	.....	.....	....	277,315	144,000	8	316,909	147,615	8	120½	..	120
"	6	Boston and Providence	41	1,886,135	none.	18,600	100	233,388	110,823	6	282,701	156,109	6	108¾	.....	109½
"	7	Boston and Worcester	44	2,914,078	.....	.....	...	4 0,141	162,000	6	428,437	195,163	7½	116½	..	117½
"	8	Berkshire	21	280,260	not stated	.....	....	.....	17,500	7	17,737	.....	...	.....	.....	....
"	9	Charlestown branch	.....	2,388,631	.....	.....	....	.....	.....	13	34,654	13,971	5½	70½	..	82½
"	10	Eastern	54	1,150,000	.....	.....	....	279,563	140,595	6	337,238	227,920	8	109¾	..	109
"	11	Fitchburg	50	380,000	just opn'd	.....	....	.....	.....	....	42,759	26,835	....	120	..	124
"	12	Nashua and Lowell	14 1-2	430,962	.....	.....	....	84,079	.....	8	94,588	34,944	10	121	.....	126½
"	13	New Bedford and Taunton	20	172,883	.....	.....	....	50,671	24,000	6	64,998	24,000	6	.....	.....	....
"	14	Northampton and Springfield	.....	2,170,366	unfin.	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	15	Norwich and Worcester	59	87,820	900,000	16,535	100	162,336	24,871	....	230,674	99,464	3	70½	.....	72
"	16	Old Colony	.....	63,075	unfin.	.....	....	.....	.....	....	.....	.....	....	102	..	104
"	17	Stoughton branch	4	250,000	unfin.	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	18	Taunton branch	11	.....	.....	.....	....	.....	20,000	8	96,687	20,000	8	118	.....	....
"	19	Vermont and Massachusetts	.....	41,516	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	20	West Stockbridge	3	7,686,202	200	.....	100	.....	.....	....	.....	.....	4	.....	.....	....
"	21	Western, (117 miles in Mass.,)	156	8,431	4,686,202	30,000	....	573,882	284,432	....	753,753	439,679	3	102¼	.....	101¼
"	22	Worcester branch to Milbury	.....	1,244,123	506	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	23	Housatonic, (10 months,)	74	1,100,000	.....	.....	....	.....	.....	....	150,000	.....	....	82	..	....
Con.	24	Hartford and New Haven	38	600,000	100,000	10,000	100	.....	.....	....	.....	.....	6	89	.....	94½
"	25	Hartford and Springfield	25 1-2	2,600,000	400,000	2,000	100	.....	.....	....	.....	.....	....	.....	.....	....
"	26	Stonington, (year ending 1st Sept.,)	48	336,211	650,000	13,000	100	113,889	.....	....	154,724	79,845	....	41	.....	39½
N.Y.	27	Attica and Buffalo	31	1,796,342	.....	.....	....	45,896	7,522	....	73,248	48,033	0	.....	.....	....
"	28	Auburn and Rochester	78	766,657	200,000	14,000	100	189,693	112,000	....	237,667	152,007	6	106	..	....
"	29	Auburn and Syracuse	26	200,000	.....	.....	133½	86,291	27,334	....	96,738	52,544	6	116	.....	....
"	30	Buffalo and Niagara	22	5,000,000	.....	1,500	....	.....	.....	....	.....	.....	....	100	.....	....
"	31	Erie, (446 miles,)	.....	.....	.....	.....	....	.....	.....	....	.....	.....	....	31½	.....	29
"	32	Erie, opened	53	1,206,231	.....	.....	....	.....	48,000	....	126,020	59,075	....	.....	.....	....
"	33	Harlem	26	575,613	.....	.....	....	.....	.....	....	140,685	62,399	....	70	..	72
"	34	Hudson and Berkshire	31	1,610,221	.....	.....	50	.....	.....	....	35,029	1,94	0	14	..	..
"	35	Long Island	96	1,317,893	392,340	29,846	....	.....	.....	....	153,456	58,996	0	75½	.....	76
"	36	Mohawk and Hudson	17	303,658	400,000	10,000	100	69,948	58,780	....	79,804	45,763	0	64½	..	61
"	37	Saratoga and Schenectady	22	640,800	.....	.....	....	42,242	3,000	1	34,666	8,455	0	.....	.....	....
"	38	Schenectady and Troy	20 1-2	1,115,897	.....	.....	....	28,043	.....	....	32,646	6,365	0	.....	.....	....
"	39	Syracuse and Utica	53	727,332	none.	16,000	62½	163,701	72,000	....	192,061	120,992	8	115	..	..
"	40	Tonnawanda	43	180,000	.....	.....	....	76,227	.....	....	114,177	75,865	5	.....	.....	....
"	41	Troy and Greenbush	6	475,801	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	42	Troy and Saratoga	25	2,168,165	.....	.....	....	44,325	21,000	....	38,502	9,971	2½	.....	.....	....
"	43	Utica and Schenectady	78	3,200,000	none.	20,000	100	277,164	180,000	9	331,932	199'094	8	129	..	....
N. J.	44	Camden and Amboy	61	500,000	.....	.....	....	682,832	383,880	....	784,191	404,956	....	110¾	..	111
"	45	Elizabethtown and Somerville	26	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	46	New Jersey	34	2,000,000	.....	.....	....	.....	.....	....	.....	.....	....	93½	..	..
"	47	Paterson	16	500,000	.....	.....	....	.....	.....	....	.....	.....	6	85	.....	....
Pa.	48	Beaver Meadow	26	1,000,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	49	Cumberland Valley	46	1,250,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	50	Harrisburg and Lancaster *	36	860,000	.....	.....	....	.....	.....	....	.....	.....	....	30	.....	....
"	51	Hazleton branch *	10	120,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	52	Little Schuylkill	29	900,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	53	Blossburg and Corning	40	600,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	54	Mauch Chunk *	9	100,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	55	Minehill and Schuylkill Haven *	18	315,000	.....	.....	....	.....	.....	12	.....	.....	....	143½	..	....
"	56	Norristown	20	800,000	.....	.....	....	.....	.....	....	.....	.....	....	6½	..	7
"	57	Philadelphia and Trenton *	30	400,000	.....	.....	....	.....	.....	....	.....	.....	....	104	.....	....
"	58	Pottsville and Danville	29 1-2	1,500,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	59	Reading	94	9,457,570	7,447,570	40,200	50	.....	.....	....	597,613	343,511	....	50½	.....	49
"	60	Schuylkill valley *	10	1,000,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	61	Williamsport and Elmira	25	400,000	.....	.....	....	20,000	.....	....	.....	.....	....	.....	.....	....
"	62	Philadelphia and Baltimore	93	4,400,000	.....	.....	....	43,043	200,000	....	.....	210,000	....	43½	..	42
Del.	63	Frenchtown	16	600,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Md.	64	Baltimore and Ohio, (1st Oct.)	188	7,623,600	.....	.....	....	575,235	279,402	....	558,620	346,946	....	48½	..	50½
"	65	Baltimore and Susquehanna	58	3,000,000	.....	.....	....	.....	.....	....	.....	.....	....	5	..	6
"	66	Baltimore and Washington	38	1,800,000	.....	.....	....	177,227	71,691	....	212,129	104,529	....	84	.....	....
Va.	67	Greensville and Roanoke *	17 12	260,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	68	Petersburg and Roanoke *	60	969,880	.....	.....	....	.....	.....	....	122,871	72,898	3	.....	.....	....
"	69	Portsmouth and Roanoke	78 1-2	850,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	70	Richmond and Fredericksburg *	61 1-2	1,200,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	71	Richmond and Petersburg *	22 1-2	700,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	72	Winchester and Potomac *	32	500,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
N. C.	73	Raleigh and Gaston *	84 1-2	1,360,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	74	Wilmington and Raleigh *	161	1,800,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
S. C.	75	South Carolina	136	5,671,452	.....	34,410	75	.....	.....	....	532,871	140,196	5	.....	.....	....
"	76	Columbia	66	.....	.....	.....	....	201,464	77,456	....	328,425	180,704	....	.....	.....	....
Ga.	77	Central	190	2,581,723	.....	.....	....	227,532	93,190	....	.....	.....	....	.....	.....	....
"	78	Georgia	147 1-2	2,650,000	.....	.....	....	248,026	158,207	....	248,096	147,523	....	.....	.....	....
"	79	Montgomery and West Point	89	.....	170,000	.....	100	.....	.....	....	35,000	15,000	....	.....	.....	....
Ky.	80	Lexington and Ohio	40	500,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Ohio	81	Little Miami	40	450,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	82	Mad river	40	400,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Ind.	83	Madison and Indianapolis	56	152,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Can.	84	Champlain and St. Lawrence	15	212,000	.....	.....	....	.....	12,000	....	58,000	24,000	....	110	.....	....

Correspondents will oblige us by sending in their communications by Monday morning at latest.

PRINCIPAL CONTENTS.

AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y

Thursday, May 8, 1845.

☞ This number of the Journal has been delayed somewhat in consequence of the prevailing *moving* mania of our city—but as "moving day" does not usually come but *once* a year, we hope not to be thus delayed again.

☞ The Hon. John A. Dix will please accept our thanks for valuable public documents.

ELECTRO MAGNETIC TELEGRAPH.

We are indebted to FRANCIS O. G. SMITH, Esq., the author, for a copy of the Vocabulary for Secret Correspondence, by means of the Electro Magnetic Telegraph, for which he will please accept our thanks. We hope soon to see the wires extended from Baltimore to Boston, that its utility may be better appreciated, and more widely enjoyed. We also trust that it may not be made subservient to the few, but enjoyed by all alike—first come first served.

☞ The Pennsylvania Inquirer says that "the railway between Paris and Orleans pays well. In one week the receipts were nearly $1,000, and the total receipts since the opening of the present year, have been nearly a million of dollars. In one week they carried 35,497 passengers. It is valuable stock."

"Nearly $1,000" a week, and "nearly a million of dollars since the opening of the present year," do not correspond—which is correct?

A suit for damages was tried last week in Norristown, brought by James Jones against the Philadelphia and Reading railroad company, for the recovery of damages for the destruction by fire of the plaintiff's mills, in Upper Merion township, caused by sparks from the locomotive.

"The defendants contended that the increased risk of the destruction of the plaintiff's mill by fire, was a part of the damage he had sustained by the location of the road so near his mill, and that the contingency of its destruction by fire communicated from the defendants' locomotives, in their ordinary use, was a part of the damages which he must have considered he might sustain at the time he gave the release for all such damages, and that he was, therefore, already paid for this damage, if it occurred without any default of the defendants or their agents. The court concurred in this view of the case."

The jury returned a verdict for plaintiff of $3,658.—[Ledger.]

The destruction of property by fire from locomotives is becoming oppressive to the people—and it is high time that measures were adopted to prevent so frequent a repetition of them. We find in the Evening Post a letter dated Brookhaven, L. I., May 5th, giving an account of a destructive fire in the woods, near the Medford depot, on the 14th of April, which destroyed timber, fences, cord wood, a house and two barns; and since that date, the same letter states, there has been three other fires from the same cause along the same road, viz: 29th April, near the same place, May 2d, east of Carmans river, and May 3d, near Suffolk station—by which large amounts of property have been destroyed, and many poor people made to suffer. This *should not be*, if there is a possibility of avoiding it, which we believe may be done at trifling expense to each engine, viz: by use of the improved smoke stack, of French & Baird, of Philadelphia—as it is not uncommon at the south, we are informed, to carry cotton bales in open cars, attached to a locomotive having one of these stacks.

RAILROAD ACCIDENTS.

It is but a day or two since we were congratulating ourselves to a friend, the superintendant of an eastern railroad, that there had been very few serious accidents for some time past, on our railroads—but on opening the Traveller we find that "a man was killed on the track of the Lowell railroad Friday morning, about two miles from the city, having been run over by the 11 o'clock train, going up.—The man was walking towards Lowell on the left hand track, and seeing a merchandize train coming down, stepped on to the other track, not perceiving that the passenger train was immediately behind him going up, and supposing, as is presumed, that the bell and noise of both engines proceeded from the merchandize train. The passenger train struck him, knocked him across the rails, and ran over him, cutting his arm nearly off and his body almost in two, and of course killing him instantly. His name was Valentine Gay, a respectable citizen of Lyman, Me."

An accident may occur in this way without blame to those who manage the engine—yet it should incite them to double diligence, as it is known to us all that people will walk on the track and expose their own lives, while others are so *criminally* careless, that they allow their cattle to run on the track, and thus expose the lives of the hundreds who are obliged to travel—indeed we have been told of instances in which cattle have been *salted* on the track, and when killed by the locomotive, the company prosecuted and put to heavy costs.

Such *baseness* can hardly be credited in a christian community. When detected, it should be visited with the severest punishment—as should also all carelessness in those who manage railroads.

Railroad companies should be fully protected in their rights, and allowed liberal profits and privileges; and then the rights, safety and lives of their passengers should be rigidly and unceasingly guarded in return.

MONTGOMERY AND WEST POINT RAILROAD—GEORGIA.

This, together with several other railroads, has not been found in our list of *American Railroads*, for the reason that we could not obtain what we supposed to be an accurate account of it. We have just received from an unknown hand the following statement, which enables us to place it in the list, as we desire to, and shall always do, when we receive the necessary facts in relation to other railroads.

The Montgomery and West Point railroad will be, when completed, 89 miles long—of which is now finished 40 miles, graded only 23 miles, not yet commenced, 26 miles. The cost thus far has been $520,000—of which, $350,000 has been raised by sale of stock, and $170,000 by loans and debts incurred. They have 4 locomotives, 3 passenger and 20 freight cars. The gross earnings for 1844 were $35,000, and its expenses $20,000. The original price of shares was $100—yet, like many other important, but *unfinished* works, there are few or no sales by which its present value can be arrived at. It will, however, we think, eventually be completed, and give a good return upon the investment—and it behoves those engaged in its management, and interested in its completion, to make vigorous and constant efforts to effect so desirable an object.

THE COAL TRADE.—Sent by railroad from Pottsville and Port Carbon, for the week ending on Thursday evening last....5,562·11
Per last report....44,721·15

Total....50,284·06
From Schuylkill Haven....7,436·08
Per last report....84,921·17

Total....92,358·05

BY CANAL.

From Pottsville and Port Carbon....3,535·01
Per last report....21,310·01

Total....24,845·02
From Schuylkill Haven—total up to Thursday evening....775·01
Per last report....2,340·05

Total....3,115·06
From Port Clinton....1,635·12
Per last report....4,995·17

6,631·09

Total by canal....34,591·17
Total by railroad....142,642·11

Total by railroad and canal....177,234·08

Freights from Pottsville to Philadelphia, 70 cents, to New York, $1 80.

The following are the rates of freight from Richmond and the Schuylkill to eastern ports:

To Salem	$2 00 to 2 12	per ton
To Boston	2 18 to 2 00	"
To Portland	2 25 to	"
To New Bedford	1 45 to 2 50	"
To Providence and Fall river	1 40 to 1 50	"
To New York	1 00 to	"

PINE GROVE COAL TRADE.—Transportation on Union canal railroad for this season, up to April 1.

	Tons	cwt.	qr.		
January,	271	1	1		
Feb. and March,	1259	18	3	1531	0 0

Amount transported on Swatara railroad, during March, 1845 - - - - 548 16 0

Transportation on Union canal railroad from 1st to 15th April, inclusive, 2136 1 2
Per last report, - 1531 0 0— 3,667 1 2

Transportation on Swatara railroad, from 1st to 15th April, inclusive, - 1,077 0 0
Per last report, - 548 16 0— 1625 16 0

LEHIGH COAL TRADE.—Despatched this season up to 4th mo. 26th, 1845, from Mauch Chunk.

Lehigh coal and navigation co.

Summit,	4415	
Room Run,	1275	5690
Beaver Meadow railroad and coal co.,		1874
From Penn Haven.—Hazleton coal co.,		2010
From Rock Port.—Buck Mountain coal co.,		654
		10228

Total shipments from Mauch Chunk. Lehigh coal and navigation co.

Summit mines,	13210	
Room run do.,	3136	16356
Beaver Meadow railroad and coal co.,		5743
From Penn Haven—Hazleton coal co.,		5133
From Rock Port—Buck Mountain coal co.,		1408
		28,630

WYOMING COAL TRADE—Total to April 26th, - - - - - 5758

MINEHILL AND SCHUYLKILL HAVEN RAILROAD.—The following is the amount of coal transported over this road, for the week ending on Wednesday evening last: 8,623·16
Per last report, - - 86,329·07
Total, - - - 94,953·03

MOUNT CARBON RAILROAD.—The amount of coal transported over this road for the week ending on Thursday evening last, is - - 5468
Per last report, - - - - 46,356
Total, - - - - - 51,824

ATLANTIC AND PACIFIC, OR OREGON RAILROAD.

We find the following communication from Mr. Whitney, the bold projector of the railroad to Oregon, in the National Intelligencer. Mr. W. proposes to make an excursion, or reconnoissance, during the ensuing summer, of a *part*, say *seven* or *eight hundred* miles of the contemplated railroad to the Pacific ocean. He says that several young gentlemen will accompany him, and he invites others to do so. The editor of the National Intelligencer says, that "such a trip will not only offer all the pleasures of a journey over a wide, a various, an important and but little traversed region, but couple with it an object worthy of the attention, and probably the advantage, of an intelligent company, able by their diversity of knowledge, to assist and inform each other as to everything that may present itself along their route, in geology, and other parts of natural history and science."

We fully coincide with the editor of the Intelligencer, and would go much further and say that such an excursion would be an *hundred* times more *healthful*, and a *thousand* times more useful, to the educated and wealthy young men of our country, than an excursion to *Saratoga*, or *Cape May*, or even to Europe. By adopting this course, they would not only improve their health, but also learn the *extent*, the *fertility* and the *resources* of their native land, which they may be soon called to aid in governing, and what is more important still, in *defending* from foreign aggression—instead of learning the follies and vices of fashionable resorts, and foreign countries. The one will make intelligent, healthy and useful men, instead of, as is often the case, idle, dissipated and vicious fops.

"*Interesting Excursion.*—The expedition promised in the subjoined note from the gentleman who has conceived the great project of what may be called the continental railway, is certainly a very inviting one to such as propose to themselves a summer's travel. Such a trip will not only offer all the usual pleasures of a journey over a wide, a various, an important and little traversed region, but couple with it an object worthy of the attention, and probably the advantage, of an intelligent company, able by their diversity of knowledge, to assist and inform each other as to everything that may present itself along their route, in geology and other parts of natural history and science.

"Without pretending as yet to offer any decided opinion as to the feasibility of Mr. Whitney's bold idea, we confess that its mere vastness, though suggesting to many the notion of its being visionary, by no means implies, of itself, to us such a conclusion; and anything but forbids, therefore, the prosecution of a careful examination of the possibilities of his plan. We know that many much more competent than we to judge of the scheme, are already convinced of its reasonableness.

"Certainly, then, since the proposed means of effecting the object may prove adequate, and, if adequate, dispense with the raising of capital either abroad, or at home, by moneyed subscription; since the line of lands to be granted by our government will derive its value from the execution of the work itself; since the gift will, if the thing succeeds, add a worth to the contiguous territory which will more than replace to our public domain the price of what is to be parted with; since if the plan fail the grant is to revert; and since, on the other hand, if it succeeds, the national and commercial benefits attained must be very great, we must avow ourselves persuaded that the scheme deserves to be very seriously examined, and by no means rejected as extravagant.

"Nor is it to be overlooked that at least the first step in the proposed line of communication seems quite practicable — the road from lake Michigan to the Mississippi —an object highly worthy of being realized, and for which the face of the country to be traversed offers unusual facilities. We are disposed at present to think that this part of the project may readily be accomplished by the proposed means; and that probably a surplus of resources might be left that would go far towards the remainder of the work."

"*Washington*, April 23, 1845.

"MESSRS. GALES & SEATON: It is my intention to pass over, examine, and partially survey seven or eight hundred miles of the proposed route for the railroad from lake Michigan to the Pacific.

"I shall leave New York about the 20th May for Green Bay, follow the lake down to Milwaukie, thence west to the Missouri river, and return by St. Louis.

"Several young gentlemen of high respectability and education will accompany me, and it will please me to have our number increased.

"The excursion will be pleasant, beneficial to health, and useful in the knowledge to be gained of that vast country; and should the project for the railroad succeed, those who now accompany me can be usefully and advantageously employed in the great work.

"It will please me to have some young gentlemen of the south to join us; and I shall be happy to communicate with any so disposed. Truly yours, A. WHITNEY.

"41 William St., New York."

STEAMBOAT DISASTERS.

We fully concur in the following remarks from the *Traveller*. It is high time that measures were taken to avoid the numerous accidents which occur on board American steamboats.

"The recent appalling disaster on the Hudson has aroused public attention to the necessity of legislative interference in regulating steamboat navigation. Shall the proprietors and officers of these public conveyances be suffered to sacrifice at their pleasure, the lives of our citizens? In this form of the question, the answer is unanimous—something must be done. But what?

"It is proposed among other things, that the legislatures of the several States require all steamboats which navigate their waters, to be supplied with life boats and life preservers, sufficient for the largest number of passengers which such boats can accommodate. To all this we give our cordial assent. It ought to be done forthwith. We go yet further; and say, that in our opinion the officers and directors of all passenger-carrying boats should be held liable for all loss of life resulting from disasters on board their boats; and should be required to show that such disasters and deaths were not the result of bad management or carelessness on their part, or else be subject to indictment for manslaughter. We aver that such a requisition would be perfectly right and just. These men are "common carriers;" and as such, are now held responsible by law for all property entrusted to their care; and on the same principle, and for the same sufficient reason, they should be held liable for all disasters resulting in the injury or death of our persons or our friends.

"But, after all, we have little hope of any effectual reform in the management of our passenger boats, until the press and the public themselves are reformed on this subject. What can our legislators do effectually, or what will they attempt to do, so long as the rage for rapid travelling and cheap travelling continues? What is human life, compared with the saving of a picayune, or of an hour's time? A boat that will make a quick passage, though it be to the straining of every joint in her, and to the endangerment of every life on board of her, will be chronicled and puffed as "the fastest boat on the route;" and will be crowded by hundreds of persons travelling for *pleasure*, as well as for business.

"A boat which will start as an opposition line, and underbid the old line, even though that was reasonable in its charges, will find a rush of passengers to her decks. Now, then, so long as such is the feeling, and such the practice of the community, we may cry out against the carelessness of the managers of our steamboats, when, in their races they are so unlucky as to blow up or run on a rock, we may even judge them, in certain flagrant cases, worthy of the gallows—as perhaps some of them really are—and still the evil will not be remedied; and if traced home it will be found lying at our own door. If the public will patronize and encourage men to run boats without a reasonable compensation, and to run them in the least possible time, without regard to human life—so long, just so long, we shall have steamboat disasters; and every few weeks the community will be clothed in sadness, and the mourners will go about our streets."

We are indebted to ADAMS & Co., who will please accept our thanks, for the English *Railway*, and *Mining* Journals, of the 12th April, by the steam-ship.

On referring to these Journals we find that the railway fever has not yet reached its height, but seems to be steadily advancing.

The following extract from the Mining Journal of April 12th shows that *railway* shares are esteemed as one of the best, if not the *very* best investments of capital—an opinion in which we fully concur, when *judiciously* made.

"PROGRESS OF RAILWAYS.

"The transactions in railway shares have this week been more buoyant than ever: speculation appears again to be on the increase, and the desire of investing, so far from being checked, continues as restless and unabated as ever. Scotch and Irish railways appear to hold a prominent position at the present moment; and, while the latter are especially in great request, it may be mentioned as an instance of the high favor of the former, that for the allotment of 22,000 shares in the Great North of Scotland, there were applications for no less than 200,000, and in the Inverness and Elgin Railway, where only 15,000 of the total amount of £300,000 were to be allocated, 109,652 shares, representing a sum of £2,193,040, were sought for. This, indeed, looks as if the mania for speculation had not in the least subsided; but it is not to this class of stock that the spirit is confined; even in novel propositions to be applied to railways, the anxiety to invest is singularly perceptible; we believe that, for the 12,000 shares into which Bilbrow's Atmospheric Railway capital is divisible, above 36,000 have been already applied for. This sudden eagerness to speculate is, doubtless, attributable in a great measure, to the eminent success attending enterprise in similar projects. Railways appear daily progressing, not only in extension, but receipts, and affording thus a steadily increasing return for capital; such investment is naturally considered a safe as well as eligible medium for permanent enterprise."

ON ATMOSPHERIC RAILWAYS.—BY DR. J. G. HEWLETT.

In no subject is an active, energetic, and commercial people more deeply interested than in the means for safe and expeditious intercommunication; and, as we have long maintained a high pre-eminence among the civilized nations of the earth for our zeal, enterprise and commerce, we can only expect to secure these honorable distinctions by affording every possible encouragement to those inventions and discoveries which have a tendency to bring the arts and sciences to the highest degree of culture and practical utility. The truth of this statement has been admitted; and yet a strange, but most decided opposition has been raised to almost every remarkable invention that has been introduced during the last fifty years. The proposed locomotive steam-carriage was most violently opposed by the devout lovers of stage-coach travelling. The olden times and the olden ways were so much admired that any innovation on the olden practices were dreaded with a terror, a little less than that felt at an approaching earthquake. That the whole host of interested parties should be opposed to a new and improved mode of travelling was no more than might be expected, because the doctrine of vested rights, as maintained and practically carried out in this country, had ever been a mighty barrier to all social and moral improvements. But that parties who had no such rights to be jeopardised or damaged should be opposed, must be a matter of surprise to every reflecting mind. For not a few, both in Bristol and Birmingham, were to be found, who, on hearing of the respective railways proposing to accomplish twenty miles an hour, said, with much complacency —"Let others venture their necks who please, but as for me, I am quite contented to travel at the rate of ten miles an hour, including all stoppages, and think it is speed enough for any reasonable man." And so it was, according to the means employed—means which involved no small amount of suffering and cruelty to animals. But now that locomotive power has become a general mode for the transmission of men and chattels, the very persons who were so timid and so dreading consequences, are now among its warmest advocates and substantial patrons. Yet this must not be regarded as an ultimatum, but merely a step in the ever-advancing course of improvement. Seeing how former inventions have been treated, on their first introduction to public notice, by the populace at large, it is no more than experience has taught us, to expect that every bold invention, developing some new power, should meet with a similar treatment; and, upon this principle, a host of prejudices are arrayed against atmospheric railways. The prejudices which have existed against former inventions, and subsequently giving way to approbation and admiration of the highest order, induce the writer of this paper to think, that those prejudices arose from a want of information, and a consequent misapprehension of the whole invention. This is certainly the case in reference to many who are opposed to atmospheric railways; they talk of accidents occurring by this mode of travelling which must, of necessity, be more fatal than accidents by the locomotive power. No mode of travelling can pledge an entire exemption from accidents. A small piece of orange peel on our ordinary pavements may occasion the death of the man who accidentally puts his foot upon it. But this is very different from a company of men looking pale with fear, dreading that a shower of pumpkins from the moon will dash them to pieces, when they have not as yet any credible testimony that there are pumpkin gardens in the moon. With the utmost respect for the fears of the timid, and the misconceptions of the uninformed, we venture to think, that a few plain matter-of-fact statements will have a tendency to dissipate their fears, and correct their misconceptions. Correct definition is the foundation of all sound information. The terms constantly employed on this topic are "locomotive power" and "atmospheric principle or power." Locomotive power is the mechanical force identifying itself with the carriages moved. Atmospheric power is mechanical force acting on the carriages through different media—a force renewable at intervals on the line—so that the atmospheric power is often classed with the stationary, as the impulse, or cause of motion, is only at intervals, as in some railways, such as Blackwall, the rope by which the carriages are moved is put in motion by a power that is entirely fixed and distinct from the carriages themselves.

The history of atmospheric railways will satisfactorily show that the principle is not so new—and, consequently, the plans constructed on it by no means so *jejune* and immature as some imagine. If seven cities have contended for the honor of being the birthplace of Homer, it is no wonder that many persons who have had thinkings and imaginings on the subject should contend for the honor of being the inventor of the atmospheric mode of propulsion. There are some difficulties in tracing this Nile to its right source; the first authentic data, however, which we have immediately connected with the subject, is the publication of a pamphlet, in 1810, by Mr. Medhurst, in London, in which he proposed the idea of employing the power of the atmosphere created in an extended tube laid between the rails, and communicating the moving power thus obtained to propel carriages travelling on a road. Mr. Pinkus, however, asserts that Mr. Medhurst only proposed the impracticable part of Papin's plan of forcing air under the compression of many atmospheres, as several others before him had done, adding, at a subsequent date, the idea of moving a piston through an under ground tunnel, by forcing in air behind it, from distances of 20 miles apart, and, by means of such piston and tunnel, impelling passengers and goods. Medhurst's first plan was to convey letters and goods by means of rarefaction and compression of air in a channel six feet high and five feet wide, contained in a paved road or iron railway. Mr. Medhurst, it should be observed, took out no patent, performed no experiments, and distributed his pamphlets chiefly among his friends; so great controversy has always existed as to the legitimacy and extent of his claims. In 1824, he contested his claims to invention, in a paper war with Mr. Valance; and in 1840, Mr. Pinkus contested them. In 1817, Mr. Lewis proposed a plan, which was a modification of that of Medhurst's. In 1824, Mr. Valance took out a patent for his method of an underground tunnel, also availing himself of rarefaction and atmospheric pressure. Mr. Valance made experiments with his system at Brighton, but does not appear to

have been successful, so that his patent produced him no return, while Mr. Medhurst claimed priority of the invention. There is, however, strong reason for deciding that Mr. Valance first proposed employing the power of the atmosphere against a *vacuum* for railway purposes, as Mr. Medhurst did a *plenum*. In 1828, Mr. Medhurst re-published his pamphlet of 1810, and he then proposed to use a tube comparatively much smaller, to enclose a piston in it, and to transmit its action to the outside, through a longitudinal opening: he proposed also to have stationary engines twenty miles apart, for forcing in air. Of this plan he published a drawing, showing a long box, and a pipe suspended over a channel of water, in order to make a water joint or valve. According to the assertions of some of his friends, he made experiments with this and failed, from the impossibility, explicitly says one, of making the continuous communication from the inside of the pipe to the carriage tight enough to allow a useful degree of rarefaction to be produced; Mr. Pinkus, however, says he was well informed that Mr. Medhurst never made a single experiment. The suggestion of that mode of railway transit appears to be fairly due to Mr. Medhurst; the important step of creating a vacuum before the piston belongs to Mr. Valance, while the further improvement of attaching the piston to an external carriage is disputed by Mr. Medhurst and Mr. Pinkus; Mr. Medhurst's pamphlet is certainly the *first* publication, while Mr. Pinkus quotes no evidence as to his own claims. On the 1st of March, 1834, Mr. Pinkus brought out his first patent; and in this he proposed, as a valve, one in the form of a cord, or rope, and which he calls a valvular cord. Mr. Pinkus states, that in 1830, he had again prepared fresh plans and specifications, such as are now enrolled, and that he had exhibited them to his friends, and in 1833 commenced his patent. In 1834, he constructed a large working model, which was publicly exhibited in Wigmore-street; according to the Samuda advocates, the experiments were a complete failure; but in 1836, an association was formed for working under Mr. Pinkus's principle, and contracts were made for works, to demonstrate the principle. In 1836, Mr. Pinkus took out another patent for this country, with improvements, and also for foreign countries; in this the valve was formed of iron plates, secured to felt, to lay against pieces of wood, which he proposes to fix to the inner sides of the trough, as presenting a smoother surface than cast iron; he also described a spring copper valve, fastened at its foot to the pipe, and meeting at the top, in the shape of an inverted V. The system was then called the pneumatic system, and excited a good deal of attention, and much controversy. At this period works were designed to be applied on the West London Railway, at Wormwood Scrubbs; the works nearly completed a line half a mile in length, formed on the margin of the Kensington Canal, which was united with that line of railway; Messrs. Samuda and Hague were the contractors for the engines, the former also for the mains and valves. Mr. Clegg is claimed by Mr. Pinkus as having been at that time confidentially employed and consulted by him, and as having witnessed the progress of the experiments; to these assertions of Mr. Pinkus we have not seen a satisfactory answer; certain it is, that on the 3d of January, 1839, a patent was taken out by Messrs. Clegg and Samuda, from which practical results have been obtained. The grand principle of the improved atmospheric plan, up to this period, was in hermetically sealing the valve with a composition each time the train passed. In 1838, experiments had been made on this plan at Chaillot, through the exertions of Mr. James Bonfit. Next, an extensive experiment was performed on Wormwood Scrubbs, on the West London railway, Mr. Pinkus's apparatus having been removed, his company falling to the ground for want of funds. The portion of the line selected was half a mile long, with a rise of 1 in 120 for rather more than half the distance, and 1 in 115 for the remainder. On the 11th of June, 1840, this line was open for experiments, and these were attained with sufficient success, and so far sanctioned by the approval of eminent engineers, as to justify further proceedings. We should observe, that on the 3d August, 1839, Mr. Pinkus obtained a third patent, in which he describes a valve and composition precisely similar to Clegg and Sumada's; on the 24th March, 1841, a fourth, where he proposes a gaso-pneumatic power. About 1841, Mr. Bonfit set up at Havre, in the factory of M. Nilbus, machinery for manufacturing Clegg and Samuda's valve. At the close of 1843, Clegg and Sumada's plan was laid down on the Dalkey line for the short distance of one mile and a quarter; this is a continuation of the Dublin and Kingstown line. And in the subsequent history of atmospheric railways, we have last—but, as we imagine, not least—the extraordinary but simple invention of Mr. James Pilbrow, which obtained a patent on the 18th November, 1844; this invention does away with the continuous valve altogether, having many other advantages which preceding inventions cannot claim.

As the two plans which now chiefly engage the attention of the public are that of Messrs. Clegg and Samuda, and that of Mr. Pilbrow, we purpose in a subsequent part of this paper, to give a minute description of each of these plans, and a comparative estimate of both. At present we invite your attention to the general advantages of the atmospheric system above steam locomotive power. A diminution of expenditure is one of the most obvious advantages. In the original outlay there is not a necessity for that extensive levelling as is now required; engines of very great power will not be needed; the wear and tear of materials will be diminished; and, by consequence, the rates of charges for travelling will be lessened, and cheap travelling will be secured with a certainty of *increased safety and comfort*. This advantage of *safety* is one of paramount importance. The atmospheric system precludes all the terrible calamities of bursting boilers and burning trains, with which the public has become painfully familiar. Running off the line is also avoided; since, in the atmospheric system the impelling power is at the centre of gravity, and must, from its action, keep the train on the rails. A collision of trains, from which such disastrous results have arisen, cannot possibly take place on the atmospheric principle. Then, not to enter into any metaphysical discussion of the question, how much the very conciousness of safety promotes our comfort—it may suffice to say, that the atmospheric system offers a full enjoymemt of the pure atmosphere of heaven as you quietly glide on by an invisible power, and entire freedom from the clanking of cumberous machinery, flying sparks, hot cinders, and strong sulphuretted hydrogen. Another advantage is, *increased speed*—the average rate of travelling by the atmospheric power being fifty miles an hour, while the highest velocity of travelling on the fastest line, by steam is thirty miles an hour; and in a country where time is appreciated as property of great value, this must be considered of paramount importance, did it exist alone; but when speed can be secured at less expense, and with increased safety and comfort, no doubt can exist, to which system the most decided preference is to be given. The plans of atmospheric railways, now fairly before the public, claim our particular attention. The first we notice is that of Clegg and Samuda; and we cannot do better than give the description drawn up by M. Arago. We shall now say a few words on the manner in which they have contrived to establish an immediate and unyielding connection between the piston, on which the atmosphere acts as a moving power, and the leading carriage of a train running outside the tube on the ordinary rails. This inflexible connection, of which we have just spoken, could not be established conveniently, except by means of a metal rod passing from the piston to the carriage. Now, as it is necessary that this connection should be maintained during the entire course of the piston, there must be a longitudinal opening in the upper surface of the tube. It is along this upper slit that the metal arm travels, by means of which the movement of the piston is communicated to the leading carriage of the train, and thence to all the others. This rod or arm, has been very justly called the connecting or moving arm, or plate.—But, it may be asked, if there is an opening in the tube, how is the vacuum to be produced? We give the reply. The opening is continued the whole length of a valve, by which it is hermetically closed; the vacuum can be thus successively produced in that part of the tube to the left and right of the piston, as in the closed tube, of which we have spoken in the commencement. By a movement to which we shall presently refer the valve is partially opened near the piston, so as to let the connecting plate pass; after which it immediately falls by its own weight. This is the most delicate part of the appara-

tus. If the valve accurately closes the opening a perfect vacuum is produced and maintained, by which we obtain a permanent and powerful moving force. On the contrary, should the valve allow the air to enter by any fissure, we cannot produce a sufficient vacuum, but by having recourse to a very powerful air pump—and, moreover, this imperfect vacuum can only be supported by the continual action of the pump. The longitudinal valve, which closes the opening of the tube, is formed of a strip of leather of indefinite length, strengthened above and below by a series of iron plates of about a foot long, and not leaving a space between them of more than three-eighths of an inch. Weight is thus given to the valve without destroying its elasticity. The leather is closely and hermetically fastened by one of its edges to one side of the opening. The other edge remains unattached and moveable; and, when the valve is closed, it merely rests on the second lip of the opening, which has been previously covered in its entire length, by a composition of wax or tallow. When the valve opens, that edge of the leather fastened to the tube bends, and thus acts as a true hinge. The valve is never raised to a perpendicular position; its movement never exceeds an angle of 45 deg. The mere falling of the valve by its own weight does not give it sufficient adherence to the edge of the opening, so as to prevent the entrance of air into the tube; therefore it scarcely resumes its place before it is heavily pressed by a wheel fixed at the back of the leading carriage, to which also is attached a cylinder filled with burning charcoal, for the purpose of melting the composition of tallow and wax, by which the valve is held down. This is a full description of the Clegg and Samuda atmospheric railway. Did time allow, we might also notice a similar plan by M. Hallette, of Arras. We come now to notice the invention by Mr. Pilbrow, C.E., for which a patent has been taken out. Now, this invention does not appear to be, like many of its predecessors, a mere improvement in some mechanical detail, but seems rather to be a new creation —a new system altogether. It might be asked, where Clegg and Samuda's patent differs from Pinkus's, &c., or what have Clegg and Samuda done? but no one will find it necessary to investigate far to discover the difference here—no one will ask that question as to Pilbrow's. By this plan, the necessity for the continuous valve running along the upper part of the tube is entirely avoided; the connection between the propulsive principle within and the carriages without being obtained in a manner entirely distinct. The propulsion tube, instead of being broken or stopped at intervals of a few miles, extends unbroken for the whole distance. At intervals on the top of the propulsion tube—say, every thirty feet—there are placed boxes and supports. Within these boxes are cogged wheels or smooth-surfaced wheels (a combination of the two, as the model is now before you), working horizontally on an axle, or shaft, the upper portion of which passes through an aperture in the top of the box, and at the outside or above these boxes, the same axles are made to bear rollers or wheels similar to those inside the box. The passages through which the shafts pass are rendered air-tight by the shoulders or flat fillet turned upon the shafts. [The lecturer referred to diagrams.] Attached to the propulsion piston is a long rod, or bar, nearly fitting the small square channel, or tube, cast upon the propulsion tube, and, running along with the piston, is conducted by this smaller tube between the lower wheels. Either side of this bar is covered with cogs, or is smooth, or a combination of the two, as the case may be [the lecturer referred to diagrams and model], corresponding with the surface of the wheels within the boxes above described. It should be mentioned, also, that these wheels, or rollers, are made to project in a slight degree within the smaller tube. [The lecturer pointed out the distinction between the adhesion and cog plan; the latter not being indispensable, but, on the contrary, arrangements which many prefer.] As to the model in particular, which meets all the objections raised against other forms or arrangements of this invention, the manner of working the apparatus is simply this:—the air being exhausted from the propulsion tube, the piston, with its rod attached, is moved along inside it by the pressure of external atmosphere; and, as it moves, the rod works on the wheels on the inside, turns them round, and, as they turn the wheels outside, the boxes turn also. These external wheels are then made to act upon the train, by means of a rod attached to it, similar to that attached to the piston within; and thus, as the piston moves along inside the tube, the first carriage of the train moves along also over it outside the tube, through the medium of this double set of wheels and rods. In attempting to give a comparative estimate of these two plans, it is right to state that Clegg and Samuda's plan has most of the general advantages which atmospheric railways have over the present locomotive principle. The great distinction, however, between the system of Messrs. Samuda and that of Mr. Pilbrow is this—that in the former, the connection between the carriage train and the propulsion piston is direct; in the latter it is indirect, a third medium being employed. Another important distinction is that the Samuda system has the propulsion tube above ground, and has insuperable difficulties in crossing roads, and in intersecting other lines; the Pilbrow invention placing the tube below the surface, gets rid of all the objections in regard to crossing and diverging lines from the main trunk. The continuous valve of the Samuda plan must necessarily occasion much leakage, while the Pilbrow plan, dispensing with the valve altogether, no leakage from that cause can possibly arise. The leakage of Samuda's plan is equal to five horse power per mile, but Pilbrow's only two and a half horse power during the whole time of working every ten miles; the Samuda plan requires an exhausting engine at short intervals of about two miles and a half; the Pilbrow plan can be worked with only one engine at the interval of ten miles. The Samuda plan is remarkably complex, and, therefore, may be subject to frequent interruptions for repairs. As M. Arago inquires —"Can we hope for future success from a system into which enters, as principal agents, a strip of leather of immense length, a composition of wax and tallow, and a hot iron to dissolve the wax?" Now, the Pilbrow plan is remarkable for its simplicity and the fewness of agents employed. It is much to be lamented that the Pilbrow plan has been attacked, and difficulties ascribed to it, for which no grounds whatever exist—difficulties which have no existence whatever, but in the imagination of the objector. Even these imagined difficulties must be frankly met, such as "the fine ground metallic surfaces of the wheels soon being injured;" "the friction and wear of the spindles, by dust;" but the most formidable objection was stated against the use of cogs—that great speed would certainly break or strip the cogs. Now, the inventor has stated in his pamphlet, and in this room (January 8) that you may dispense with the cogs, and make use of adhesion, or a combination of the two, at high velocities, though it is right here to state, that an experiment has been made with the cogs at the rate of fifty-five miles per hour, and they did not break or strip. It, however, would be perfectly useless, to spend time in refuting objections which have been either anticipated or already proved groundless."

The *Atmospheric Railway* appears to be gaining ground. The above article by Dr. Hewlett, which we copy from the Mining Journal, in relation to the various plans of Atmospheric Railways, will be read by many with interest.

THE ANGLO AMERICAN, No. 3, Vol. V, A. D. Patterson editor, E. L. Garvin & Co., publishers, Astor buildings, No. 4 Barclay street. We have unintentionally omitted to notice the commencement of the 5th volume of this excellent journal. There are very few of the weekly journals which come under our observation that can compare with it, as a reading paper, either for its variety, or its judicious selections. It is published once a week, 24 large pages, at $3 a year.

MERCHANTS' MAGAZINE, No. 5, Vol. XII —for May—Freeman Hunt, 142 Fulton st. We have before us the May number of this valuable magazine. Among numerous other articles, we find one upon the enlargement of the canal, by John B. Jervis, Esq., civil engineer, which we shall give entire in our next number.

Dr. Griscom pronounces the cars on the Long Island railroad, the best (if not indeed the only) ventilated cars in the U. States.

CONSUL AT HAVRE.

We cut the following just tribute, to the American Consul at Havre, from the Baltimore American, and give it a place in the Journal for the purpose of doing our part in showing the American people the estimation in which the system of changing our public men in subordinate stations with every political change, is, and *should* be held by all honorable minds :—

The Journal de l'Arrondisement du Havre, after copying from an American paper a notice that Mr. Pickett, of New Orleans, had been nominated as the successor of R. G. Beasley, Esq., U. S. Consul at Havre, on the ground that he, Mr. B., had made a fortune by his office, remarks—

"Mr. Beasley has fulfilled the duties of Consul twenty-eight years—having previously discharged like duties in England for ten years. During the whole of that long career, Mr. Beasley has succeeded in conciliating at once the esteem of his own countrymen, and of those among whom he has lived. A man of intelligence, and of peculiar aptitude for all that promotes the arts of industry, the name of Mr. Beasley, American Consul at Havre, will long live in a city, where he has had the talent to introduce notable improvements.

"Steam navigation, now one of the most important elements of the prosperity of Havre, was introduced here by Mr. Beasley, who first put a steamer on the route of Honfleur. First after the general peace, Mr. Beasley gave the impulse to public improvements, by causing to be built on the slope of Ingouville some of those charming residences which now cover that beautiful natural amphitheatre. His example found numerous imitators; but now, in looking at that modern village, suspended on the hill side, and overlooking our port, we must not fail to assign the part that belongs to him who was the first to lead off in this progress.

* * * * "The countrymen of Mr. Beasley will lose in him a consul—firm, enlightened, and full of energy; but Havre will long preserve, we hope, a citizen who enjoys among all classes of our population a well merited consideration.

"The motive assigned by the American papers for displacing Mr. Beasley is curious enough. 'You have made a fortune,' they say to him, 'turn out for some one else.' Strange logic! According to this, one might ask, what estimate would be placed by the American Government upon a functionary who, by his prodigalities and carelessness, should succeed in being sold out twice a year by the sheriff—and whether, in the U. States, a certificate of indigence is a talisman and pledge of success for those who aspire to public office? In this case it would be precisely the occasion to sing, with Beranger—

'Les gueux! les gueux
Sont des gens heureux!'

upon the soil of the Union!"

A number of the inhabitants of Havre engaged in the trade with the United States, on hearing of Mr. Pickett's nomination to the U. S. Senate, addressed a highly complimentary letter to Mr. Beasley, from which we take the following passage :—

"You having resided so many years in Havre, and having fulfilled the duties of Consul in a manner so satisfactory to us, and we think we may say generally to those interested in the commerce of the place, we hope and trust that the Senate, by declining to ratify the appointment, will allow you to retain the office which you have so long filled to the honor of your country. Whether you be destined in the course of events to remain in place, or to spend the remainder of your days in retirement, you may rest assured of the friendship and esteem of all who have had an opportunity of knowing you as we do, and in speaking of you, we will repeat the words of the American Nestor :—

'He has served his country long and faithfully.'"

THE IRON TRADE.

In England the price of iron seems to be steadily advancing. This state of things, if it should continue for any considerable length of time, will materially affect the progress of railways; yet, eventually, and at no distant day, it will work its own cure, by drawing large amounts of capital into the manufacture of iron, and thus, by a brisk competition, furnish an abundance of iron at reduced prices.

We take the following short article on the iron trade from the Mining Journal, of 12th April, which says :

"We have, in a former number, already announced the result of the iron masters' preliminary meeting at Wolverhampton, about a fortnight since, where it was determined to make an advance of £2 per ton, making bar iron about £12, and hoops £12 10s. In consequence of these unprecedented high prices, which were then decided on, the greatest interest was evinced as to the result of the quarterly meeting at Birmingham, on Thursday last, more especially as it was generally believed that the masters would be unable to maintain the great rise which has taken place. But, as we have more than once maintained, the price of iron so far from receding, has not yet reached its limit; and the issue of the meeting on Thursday fully confirmed our previous confident opinion. The prices were then fixed at—bar iron, £12; hoops, £12 10s.; and Shropshire pig iron, £6 10s. Still, though we all along foresaw and forwarned this inevitable advance, we were not blind to its possible disastrous effects. Apart from the great inconveniences arising to the manufacturing industry of the country, the prostration of labor it may yet entail, and the crippling of commercial enterprize, in more respects than one; apart from the pernicious effects it must have upon our ship building, (a department promising a few months ago to afford a more permanent medium for th prosperity of the iron trade than any in prospective)—and apart from the indirect detrimental influence, the high price must have upon the stability of the trade itself—apart, we say, from all these present and positive evils, should a reaction take place—should a fall occur, but half as suddenly as the recent rise—the injury caused, primarily to the holder, and secondarily to the working population, will be incalculable; and, sooner or later, come that reaction must. If, from no other cause, the introduction of foreign metal, whether castings from Belgium, or the raw material from India—aye, and even the United States of America—will effect that fall, which, at present, is with so much short sightedness delayed. Meanwhile, though the prices have been quoted so high, the market continues firm, with a good business doing the entire week. There was a report last evening on 'Change, that Scotch pig iron had obtained £6 6s. per ton."

RAILWAY IRON.—A contract was entered into in this town, on Saturday, for 21,000 tons of rails, at £12 a ton; to be delivered at the rate of 1000 tons per month, beginning in October. The purchase is made by a Glasgow house.—*Liverpool Times.*

NEW JERSEY RAILROAD AND TRANSPORTATION COMPANY.

Length of Road, 33 96-100 miles. Capital, $2,000,000.
JOHN S. DARCY, Esq., President. ROBERT SCHUYLER, Esq., Vice President.
J. P. JACKSON, Esq., Secretary. J. WORTHINGTON, Esq., Treasurer.

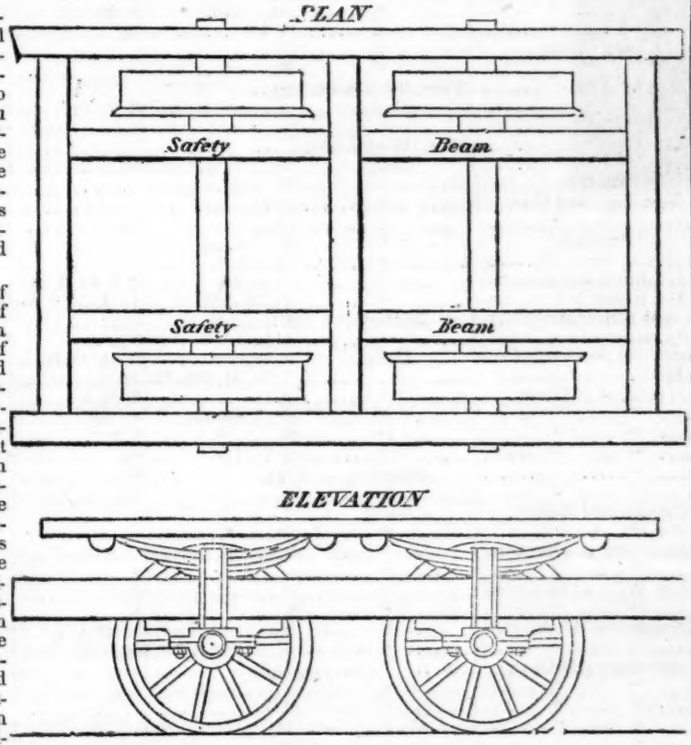
Leave New York, foot of Courtland street.	DAILY. A. M.	DAILY. P. M.	SUNDAY. A. M.	SUNDAY. P. M.
For Newark	9, 11, 12	2, 3, 4 3-4, 6, 7 1-2	9	4 3-4
" Elizabethtown	9, 11	2, 3, 4 3-4, 6		
" Rahway	9, 11	3, 4 3-4, 6		
" New Brunswick	9	3, 4 3-4		
Leave New Brunswick	6, 7 1-2, 11 1-2	8 3-4	11 1-2	8 1-2
Rahway	6 3-4, 7, 8 1-4, 12	4 3-4, 9 1-4		
Elizabethtown	7, 7 1-2, 8 1-2, 10 1-2, 12	3 1-2, 5		
Newark	7 1-2, 8 1-4, 9, 11	1 1-2, 4, 5 1-2, 7, 9 3-4	11 3-4	9 3-4
For New York.				

9 A. M. and 3 P. M. to meet the Morris and Essex trains, and 9 A. M. and 4 3-4 P. M. to meet the Somerville train, and for Philadelphia.

TABLE OF DISTANCES AND FARES.

	New York.		Newark.		Elizabethtown.		Rahway.		N. Brunswick	
	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.
New York			9 1-4	25	14 1-2	31 1-4	19 3-4	31 1-4	31 1-2	50
Newark	9 1-4	25			5 1-2	12 1-2	10 1-2	25	22 1-2	50
Elizabethtown	14 1-2	31 1-4	5 1-2	12 1-2			5	12 1-2	16 3-4	50
Rahway	19 3-4	31 1-4	10 1-2	25	5	12 1-2			11 3-4	37 1-2
New Brunswick	31 1-2	50	22 1-2	50	16 3-4	50	11 3-4	37 1-2		

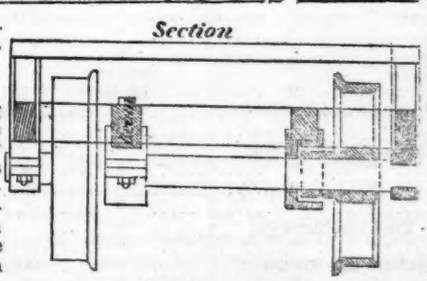
KITE'S PATENT SAFETY BEAM.



MESSRS. EDITORS.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.



☞ The undersigned takes pleasure in attesting o the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent, JAMES ELLIOTT, Sup. Motive Power,
GEORGE CRAIG, Superintendant, W. L. ASHMEAD, Agent.

☞ A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York. ja45

TRAINS LEAVE	FOR	BY RAILROAD	DAYS.	A. M.	P. M.	MILES.	FARE.
Boston	Portland	Eastern,	Daily,	7½,	2½,	106	$3 00
"	Portsmouth	"	"	7½,	2½, 4½,	54	2 00
"	Newburyport	"	"	7½,	2½, 4½,	35	1 25
"	Salem	"	"	7½, 9, 11½,	2½, 3½, 4½, 6,	14	50
"	Portland	Boston and Maine,	"	7½,	2½,	109	3 00
Portland	Boston	"	"	7½,	3,	109	3 00
Boston	Lowell	Boston and Lowell,	"	7, 11,	2, 5,	26	75
Lowell	Boston	"	"	7½, 11,	2, 4½, 5½,	26	75
Boston	Concord	Concord,	"		3½,	76	2 00
Concord	Boston	"	"		3½,	76	2 00
Boston	Nashua	Nashua and Lowell,	"	7, 11,	5,	41	
Nashua	Boston	"	"	6½,	1½, 5,	41	
Boston	Worcester	Boston and Worcester,	"	7, 9,	2½,	44	1 25
Worcester	Boston	"	"	7, 10,	6,	44	1 25
"		"	Sundays,	7,			
Boston	Worcester	"	"		2,		
Boston	New York via Norwich	"	Mon., Wed. & Fri.,		4,		
"	" " L. Island railroad	"	Tues., Thur. & Sat.,	7,			
"	" " New Haven	"	Daily,	9,	2½,		
"	Albany	Western,	"	9,	2½,	200	6 00
Albany	Boston	"	"	8½,	1½,	200	6 00
Springfield	Boston and Albany	"	"	7,	3,		
Boston	New York via New Haven	"	"		2½,		
Charlestown	West Acton	Fitchburg,	"	8,	1, 4½,		
West Acton	Charlestown	"	"	7½, 10½,	5,		
Boston	New York, via Steamboat trains	Boston and Stonington,	Tues., Thur. & Sat.,		4½,		
"	" " " "	Boston and Newport,	Mon., Wed. & Fri.,		4½,		
"	Providence	"	Daily,	7½,	4,	41	1 50
Providence	Boston	"	"	On arrival of the	mail.	41	1 50
Taunton	"	"	"	8,	4,		
New Bedford	Boston	"	"	7½,	2½,		
Boston	Dedham	"	"	8½,	3, 6½,		
Dedham	Boston	"	"	7, 10,	5½,		
New York	Greenport	Long Island,	"	7½,		95	2 25
Brooklyn	Hicksville & intermediate places	"	"	9½,		26	56¼
"	Greenport " "	"	Tues., Thur. & Sat.,	9½,		95	2 25
"	Hicksville, (Saturd'y to Suffolk)	"	Daily,		4,	26	56¼
Greenport	Brooklyn, (Boston train)	"	"		1,	95	2 25
"	" (accommodation do.)	"	Mon., Wed. & Fri.,			95	2 25
Hicksville	" & intermediate places	"	Daily,	7,	1½,	26	56¼
New York	Albany & Boston via N. Haven	Steamer,	"	6½,			5 00
"	Middletown	New York and Erie,	"	8, 3,		53	
Middletown	New York	"	"	6½,	3½,	53	
Philadelphia	Pottsville	Reading,	"	9,		94	3 50
Pottsville	Philadelphia	"	"	9,		94	3 50
New York	Newark	N. J. railroad and trans. co.,	"	9, 11, 12,	2, 3, 4¼, 6, 7½,	9½	25
Newark	New York	[9 A. M. *and* 3 P. M., *connect with Morris Railroad.*]	"	7½, 8½, 9, 11,	1½, 4, 5½, 7, 9½,	9½	25
"	"		Sundays,	9,	4½,	9½	25
New York	Newark	[9 A. M. *and* 4½ P. M., *trains, connect with Somerville Railroad.*]	"	11½,	9½,	9½	25
"	Elizabethtown		Daily,	9, 11,	2, 3½, 4½, 6,	14½	31¼
Elizabethtown	New York		"	7, 7½, 8½, 10½, 12,	3½, 5,	14½	31¼
New York	Rahway	N. J. railroad and trans. co.,	"	9, 11,	3, 4½, 6,	19¾	31¼
Rahway	New York	"	"	6¾, 7, 8½, 12,	4¾, 9½,	19¾	31¼
New York	New Brunswick	"	"	9,	3, 4¾,	31½	50
New Brunswick	New York	"	"	6, 7½, 11½,	8½,	31½	50
"	"	"	Sundays,	11½,	8½,	31½	50
New York	New Brunswick	"	"	9,	4½,	31½	50
Philadelphia	New York	Camden and Amboy,	Daily,	7,		91	3 00
New York	Philadelphia	"	"	5½,		91	3 00
Philadelphia	Bristol	Philadelphia and Trenton,	"	9,		30	75
Bristol	Philadelphia	"	"		4,	30	75
Philadelphia	Baltimore	Philad. Wil. and Baltimore,	"	8,	4,	93	
Baltimore	Philadelphia	"	"	9,	8,	93	
"	Washington	Baltimore and Washington,	"	9,	5, 11¾,	41	2 50
Washington	Baltimore	"	"	6,	5½,	41	2 50
Baltimore	Cumberland and inter. places	Baltimore and Ohio,	"	7½,			
"	Frederick " "	"	"		4,		
Cumberland	Baltimore	"	"	8,			
Hancock	"	"	"	10½,			
Martinsburg	"	"	"	11½,			
Harper's Ferry	"	"	"		12½,		
Frederick	"	"	"		2,		
"	"	"	Sundays,	8,			
Ellicott's Mills	"	"	Daily,	7½, 12,	4½,		
Richmond	Petersburg	Richmond and Petersburg,	"	10½,	1½,		
Petersburg	Richmond	"	"	5½,			
Albany	Schenectady	Mohawk and Hudson,	"	8,	5½,		
Schenectady	Albany	"	"	9,	3½,		
Albany	Saratoga	"	"	7½,	2,		
Saratoga	Albany	"	"	7,	12½, 5,		
Troy	Saratoga	Troy and Saratoga,	"		3½,		
Saratoga	Troy	"	"	7½,			
Auburn	Rochester	Auburn and Rochester,	"	8½,			
Rochester	Auburn	"	"	8,	3,		
"	Buffalo	Rochester and Buffalo,	"		3,		
Buffalo	Rochester	"	"				
"	Falls	Buffalo and Falls,	"	9,			
Falls	Buffalo	"	"		1½,		
Buffalo	Albany	Albany and Buffalo	"	8½,			